Access DB# 170552

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 11-1-05
Art Unit: 1752 Phone Number 30 2-1333 Serial Number: 10/[redacted]799,864
Mail Box and Bldg/Room Location: 9D60 (Rem.) Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Ptr. Sen Bib.

Inventors (please provide full names):

SCIENTIFIC REFERENCE BR
Sci & Tech Inf - Ctr

Earliest Priority Filing Date:

NOV 3 RECD
Pat. & T.M. Office

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search for a photosensitive (or photoresist or light sensitive or resist) composition that contains a photoacid (or acid)-generating compound of the formula (I) shown in Cl. #10

****

STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: MQH	NA Sequence (#)	STN ✓
Searcher Phone #:	AA Sequence (#)	Dialog
Searcher Location:	Structure (#) 1	Questel/Orbit
Date Searcher Picked Up:	Bibliographic	Dr.Link
Date Completed: 11/08/05	Litigation	Lexis/Nexis
Searcher Prep & Review Time: 30	Fulltext	Sequence Systems
Clerical Prep Time:	Patent Family	WWW/Internet
Online Time: ~~60~~	Other	Other (specify)

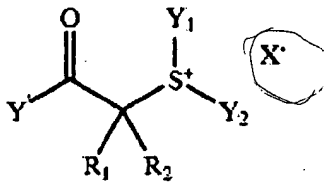
PTO-1590 (8-01)

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A stimulus sensitive composition containing a compound capable of generating an acid or a radical on receipt of an external stimulus, the compound being represented by formula (I):



(I)

wherein Y represents ~~a~~ an aliphatic group having a bridged cyclic structure; R_1 and R_2 each independently represent a hydrogen atom, an alkyl group or an aryl group; R_1 and R_2 may be taken together to form a ring; Y_1 and Y_2 each independently represent an alkyl group or an aryl group; Y_1 and Y_2 may be taken together to form a ring; and X^- represents a non-nucleophilic anion.

2. (original): The stimulus sensitive composition according to claim 1, wherein Y is a group having an adamantane structure.

3. (original): The stimulus sensitive composition according to claim 1, which is a positive stimulus sensitive composition containing:

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=> fil reg
FILE 'REGISTRY' ENTERED AT 16:19:19 ON 08 NOV 2005
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES:    7 NOV 2005  HIGHEST RN 866913-62-4
DICTIONARY FILE UPDATES:   7 NOV 2005  HIGHEST RN 866913-62-4

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TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

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*********************************************************************
*                                                                   *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*                                                                   *
*********************************************************************

Structure search iteration limits have been increased.  See HELP SLIMITS
for details.

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predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
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http://www.cas.org/ONLINE/UG/regprops.html

=> fil hcap
FILE 'HCAPLUS' ENTERED AT 16:19:24 ON 08 NOV 2005
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FILE COVERS 1907 - 8 Nov 2005  VOL 143 ISS 20
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FILE LAST UPDATED: 7 Nov 2005  (20051107/ED)

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

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     FILE 'HCAPLUS' ENTERED AT 14:28:03 ON 08 NOV 2005
               E US20040185378/PN
L1             1 S E3
               SEL L1 RN

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L2            38 S E1-38

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L3             1 S L1 AND L2

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L4               STR

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L5            21 S L4

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L6           308 S L4 FUL

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               SAV L6 SLEE864/A

     FILE 'HCAPLUS' ENTERED AT 15:22:37 ON 08 NOV 2005
L7           123 S L6
L8            61 S L7 AND RADIATION/SC,SX
L9          7601 S (PHOTOACID# OR ACID#)(W)GENERAT?
L10           45 S L9 AND L8
L11            0 S L10 AND L1
L12            1 S L8 AND L1

     FILE 'STNGUIDE' ENTERED AT 15:40:58 ON 08 NOV 2005

     FILE 'HCAPLUS' ENTERED AT 15:47:07 ON 08 NOV 2005

     FILE 'STNGUIDE' ENTERED AT 15:47:31 ON 08 NOV 2005

     FILE 'HCAPLUS' ENTERED AT 15:49:52 ON 08 NOV 2005
L13           55 S L8 AND (PHOTOACID# OR ACID#)
L14            1 S L13 AND L1
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→ This answer set excluded the applicant

→ Then, used ... w/o generating

→ Final answer set

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FILE 'HCAPLUS' ENTERED AT 15:58:04 ON 08 NOV 2005
L15 44 S L13 AND P/DT
L16 43 S L15 AND (1907-2003)/PRY,AY
L17 11 S L13 AND MOA/RL
L18 1 S L17 AND L1

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SET COST OFF

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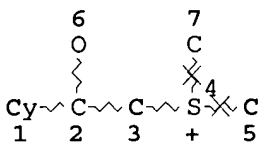
FILE 'HCAPLUS' ENTERED AT 16:19:24 ON 08 NOV 2005

=> d l13 que stat
L4 STR



NODE ATTRIBUTES:
CHARGE IS *+ AT 4
NSPEC IS RC AT 3
NSPEC IS RC AT 4
NSPEC IS RC AT 5
NSPEC IS RC AT 7
CONNECT IS E1 RC AT 6
DEFAULT MLEVEL IS ATOM
GGCAT IS PCY AT 1
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M5 C AT 1

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE
L6 308 SEA FILE=REGISTRY SSS FUL L4
L7 123 SEA FILE=HCAPLUS L6
L8 61 SEA FILE=HCAPLUS L7 AND RADIATION/SC,SX
L13 55 SEA FILE=HCAPLUS L8 AND (PHOTOACID# OR ACID#)

=> d l13 ibib abs hitstr hitind 1-
YOU HAVE REQUESTED DATA FROM 55 ANSWERS - CONTINUE? Y/(N):y

L13 ANSWER 1 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:890652 HCAPLUS
DOCUMENT NUMBER: 143:238681
TITLE: Alkali-developable polyacrylate positive-working

resist compositions and methods for formation of patterns

INVENTOR(S): Sato, Kenichiro; Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

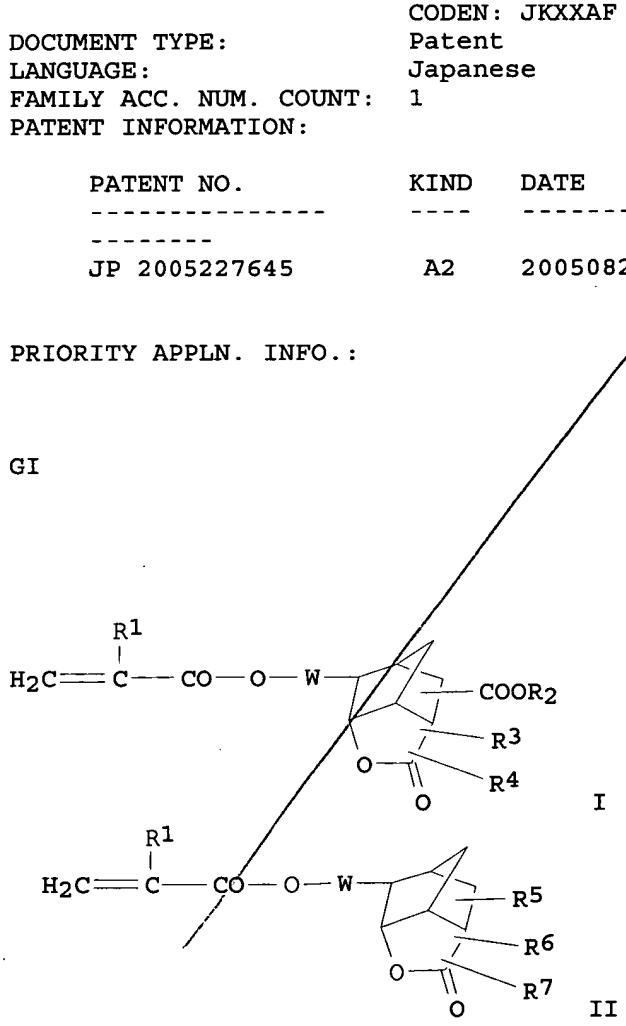
SOURCE: Jpn. Kokai Tokkyo Koho, 94 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005227645	A2	20050825	JP 2004-37770	200402 16

PRIORITY APPLN. INFO.: JP 2004-37770 200402 16

GI

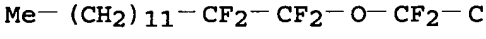


AB The compns. contain (A) polymers contg. ≥1 structural repeating units of I and II (R1 = H, Me; W = direct bond, bivalent bonding group; R2, R8 = alkyl; R3-7 = H, alkyl, cycloalkyl, alkenyl -CO2R8; ≥2 of R2-4 and ≥2 of R5-7 may rings) and showing soly. increase against alk. developers by **acids**, (B) **photoacid** generators HO3SCR12aR13a(CR10aR11a)m1(CR8aR9a)m2A1(CR6aR7a)m3(CR4aR5a)m4[A2(CR1aR3a)m5]pR2a (R1a-13a = H, org. group, halogen, OH; A1-2 = direct bond, bivalent hetero group; all of R1a-13a ≠ F when A1 = A2 = direct bond; R1a-13a ≠ H; m1-5 = integer of 0-12; p = integer of 0-4), and (C) solvents. Patterning of works using the compns. is also claimed. The compns. are suitable for formation of isolated and dense trench patterns.

IT **852245-81-9**
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator; alkali-developable
(di)oxatricyclononane acrylate polymer pos.-working resist
compns. for formation of trenches by patterning)
RN 852245-81-9 HCAPLUS
CN Sulfonium, didodecyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2-tetrafluoro-2-[(1,1,2,2-tetrafluorotetradecyl)oxy]ethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

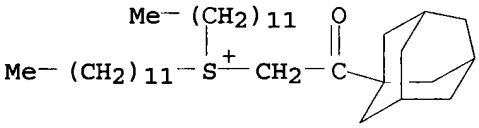
CM 1

CRN 852245-68-2
CMF C16 H25 F8 O4 S



CM 2

CRN 761458-74-6
CMF C36 H67 O S



IC ICM G03F007-004
ICS C08F120-10; G03F007-039; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 485818-96-0P 849833-36-9P 849833-38-1P 849833-39-2P
849833-42-7P 849833-43-8P 862728-58-3P 862728-62-9P
862728-64-1P 862728-66-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**acid**-sol. polymer; alkali-developable
(di)oxatricyclononane acrylate polymer pos.-working resist
compns. for formation of trenches by patterning)
IT 144317-44-2 284474-28-8 425670-64-0 474510-73-1 506445-11-0
610301-34-3 676502-24-2 680200-03-7
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(addnl. **photoacid** generator; alkali-developable
(di)oxatricyclononane acrylate polymer pos.-working resist
compns. for formation of trenches by patterning)
IT 852245-69-3P 852245-71-7P 852245-73-9P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**photoacid** generator; alkali-developable
(di)oxatricyclononane acrylate polymer pos.-working resist
compns. for formation of trenches by patterning)

IT 852245-64-8 852245-74-0 852245-78-4 **852245-81-9**
862728-74-3 862728-78-7 862728-81-2 862728-84-5 862728-86-7
862728-88-9 862728-90-3 862728-92-5 862728-94-7 862728-96-9
862728-98-1 862729-02-0 862729-05-3 862729-07-5
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator; alkali-developable
(di)oxatricyclononane acrylate polymer pos.-working resist
compns. for formation of trenches by patterning)

L13 ANSWER 2 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:547799 HCAPLUS
DOCUMENT NUMBER: 143:86815
TITLE: Thermal curable one-liquid type epoxy resin composition for overcoat
INVENTOR(S): Pae, You-Lee; Kim, Young-Keun; Choi, Suk-Young; Cha, Hyuk-Jin; Lee, Jae-Hwan; Ryu, Mi-Sun; Woo, Seung-Woo; Yoo, Kwon-Yil; Lee, Su-Hyun; Jeong, Yong-Man; Choi, Bum-Young; Han, Cheol; Kim, Woong; Jung, Nak-Chil; Kim, Min-Ji; Choi, Young-Soo; Jung, Sang-Hyup; Choi, Jae-Lok
PATENT ASSIGNEE(S): ADMS Technology Co., Ltd., S. Korea
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005057285	A1	20050623	WO 2004-KR3221	200412 09

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: KR 2003-89006 A 200312 09

AB Provided is a thermal curable one-liq. type epoxy resin compn. for overcoat. The compn. includes 100 parts by wt. of binder resin, 0.1-100 parts by wt. of latent curing agent, and 0.1-100 parts by

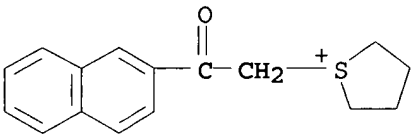
wt. of silicon-based compd. having epoxy group. The compn. has high heat resistance, transparency, film retention, degree of planarization, and adhesion, as well as high storage stability, and thus, can be useful as an overcoat of a color filter used for a thin film transistor-liq. crystal display (TFT-LCD).

IT **160509-78-4**
RL: TEM (Technical or engineered material use); USES (Uses)
(thermal curable one-liq. type epoxy resin compn. for overcoat contg.)

RN 160509-78-4 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

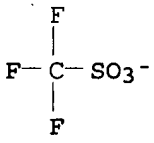
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



IC ICM G03F007-027
CC 74-13 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

IT 28630-43-5, Glycidyl methacrylate-methacrylic **acid**-methyl methacrylate copolymer
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(thermal curable one-liq. type epoxy resin compn. for overcoat contg.)

IT 60-29-7, Diethyl ether, uses 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-63-0, Iso-propanol, uses 67-64-1, Acetone, uses 68-12-2, Dimethylformamide, uses 71-23-8, Propanol, uses 85-42-7, Hexa-hydrophthalic anhydride 85-43-8, Tetrahydrophthalic anhydride 85-44-9, Phthalic anhydride 96-48-0, γ-Butyrolactone 97-64-3, Ethyl lactate 108-10-1, Methyl

isobutyl ketone 108-88-3, Toluene, uses 108-94-1, Cyclohexanone, uses 109-99-9, Tetrahydrofuran, uses 110-49-6, Methyl cellosolve acetate 110-54-3, Hexane, uses 110-71-4, Ethylene glycol dimethyl ether 111-15-9, Ethyl cellosolve acetate 111-65-9, Octane, uses 111-77-3, Diethylene glycol methyl ether 111-96-6, Diglyme 115-27-5, Hexachloroendomethylene tetra-hydrophthalic anhydride 123-86-4, Butyl acetate 127-19-5, N,N-Dimethylacetamide 141-78-6, Ethyl acetate, uses 142-82-5, Heptane, uses 552-30-7, Trimellitic anhydride 763-69-9 872-50-4, N-Methyl-2-pyrrolidone, uses 1320-67-8, Propylene glycol methyl ether 1330-20-7, Xylene, uses 2561-85-5, Dodecyl succinic anhydride 3852-09-3 5551-72-4 17907-81-2 25134-21-8 25550-51-0, Methylhexahydrophthalic anhydride 26590-20-5, Methyltetrahydrophthalic anhydride 30136-13-1, Propylene glycol propyl ether 34590-94-8, Dipropylene glycol methyl ether 66003-76-7, Diphenyl iodonium trifluoromethane sulfonate 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 81416-37-7 84540-57-8, Propylene glycol methyl ether acetate 84563-54-2 87813-97-6 93777-92-5 144317-44-2, Triphenylsulfonium nonafluorobutanesulfonate **160509-78-4** 194861-05-7 194999-82-1, Diphenyl iodonium nonafluorobutane sulfonate 195057-83-1 205514-94-9 854899-07-3 854899-08-4 854899-09-5

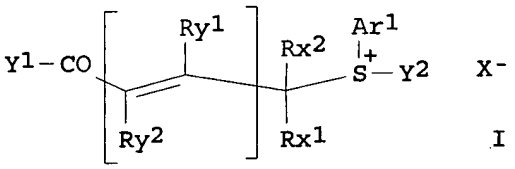
RL: TEM (Technical or engineered material use); USES (Uses) (thermal curable one-liq. type epoxy resin compn. for overcoat contg.)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 3 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:522626 HCAPLUS
DOCUMENT NUMBER: 143:35151
TITLE: Chemically amplified positive-working far-UV photoresists and their patterning method
INVENTOR(S): Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 49 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005156821	A2	20050616	JP 2003-393871	200311 25
PRIORITY APPLN. INFO.:			JP 2003-393871	200311 25

OTHER SOURCE(S): MARPAT 143:35151
GI



I

AB The photoresists contain polymers having single-ring or polycyclic alicyclic hydrocarbon structure and increasing soly. in alk. developers upon **acid** action, and sulfonium salt **photoacid** generators I [Y1 = aryl, (cyclo)alkyl, alkenyl; Y2 = aryl, (cyclo)alkyl; RX1-2 = H, alkyl, aryl, aralkyl; RY1-2 = H, alkyl, aryl; Ar1 = aryl; X- = non-nucleophilic anion; n = 0-2; Ar1 and Y2, RX1 and RX2, Y1 and RX, Y1 and RY1, and Y1 and RY2 may form a ring]. The photoresists provide good profile patterns regardless of the temp. of post-exposure baking.

IT **669008-53-1 853006-95-8 853006-98-1**
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator; in chem. amplified pos.-working far-UV photoresist contg. sulfonium salt **photoacid** generator and its lithog.)

RN 669008-53-1 HCAPLUS

CN Sulfonium, [2-(2-naphthalenyl)-2-oxoethyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

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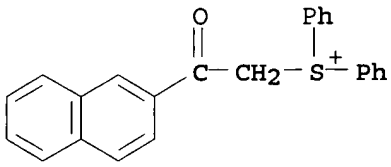
CRN 122343-38-8
CMF C24 H19 O S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

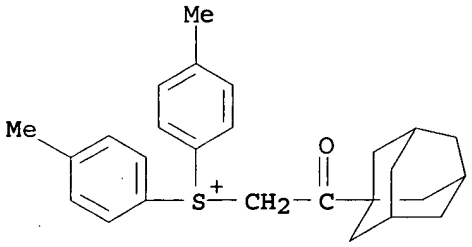
$^{-}O_3S-(CF_2)_3-CF_3$

RN 853006-95-8 HCAPLUS

CN Sulfonium, bis(4-methylphenyl)(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 853006-94-7
CMF C26 H31 O S



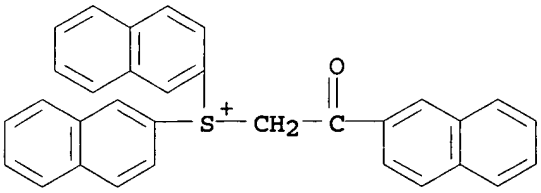
CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

RN 853006-98-1 HCAPLUS
CN Sulfonium, di-2-naphthalenyl[2-(2-naphthalenyl)-2-oxoethyl]-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 853006-97-0
CMF C32 H23 O S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

$^{-}O_3S-(CF_2)_3-CF_3$

IC ICM G03F007-004
ICS G03F007-039; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST far UV pos photoresist **photoacid** generator sulfonium salt
IT Photolithography
Positive photoresists
(far-UV; chem. amplified pos.-working far-UV photoresist contg. sulfonium salt **photoacid** generator and its lithog.)
IT 210040-28-1P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(in chem. amplified pos.-working far-UV photoresist contg. sulfonium salt **photoacid** generator and its lithog.)
IT 195000-69-2 258879-89-9 348631-34-5 391613-69-7 398140-80-2
482609-97-2 524699-47-6 577995-45-0 610300-93-1 726175-43-5
848134-81-6 848408-36-6 848408-37-7 848408-38-8 848408-39-9
848408-40-2 848408-41-3 848408-42-4 848413-53-6 848413-54-7
RL: TEM (Technical or engineered material use); USES (Uses)
(in chem. amplified pos.-working far-UV photoresist contg. sulfonium salt **photoacid** generator and its lithog.)
IT 853007-23-5P, 4-Cyclohexylphenacyldiphenylsulfonium tetrafluoroborate
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(in prepn. of sulfonium salt **photoacid** generator for chem. amplified pos.-working far-UV imf photoresist)
IT 29420-49-3, Potassium nonafluorobutanesulfonate
RL: RCT (Reactant); RACT (Reactant or reagent)
(in prepn. of sulfonium salt **photoacid** generator for chem. amplified pos.-working far-UV imf photoresist)
IT 139-66-2, Diphenyl sulfide 14104-20-2, Silver tetrafluoroborate 99433-28-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(in prepn. of sulfonium salt **photoacid** generator for chem. amplified pos.-working far-UV photoresist)
IT 669008-49-5 **669008-53-1** 853006-77-6 853006-81-2
853006-85-6 853006-89-0 853006-92-5 **853006-95-8**
853006-98-1 853007-00-8 853007-03-1 853007-05-3
853007-07-5 853007-10-0 853007-12-2 853007-15-5 853007-17-7
853007-19-9 853007-21-3
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator; in chem. amplified pos.-working far-UV photoresist contg. sulfonium salt **photoacid** generator and its lithog.)

L13 ANSWER 4 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:492883 HCAPLUS
DOCUMENT NUMBER: 142:490414

TITLE: Photosensitive composition containing sulfonic **acid**-generating compound and method of patterning using the same
INVENTOR(S): Kodama, Kunihiko; Wada, Kenji
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 110 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005148291	A2	20050609	JP 2003-383817	200311 13

PRIORITY APPLN. INFO.: JP 2003-383817 200311 13

OTHER SOURCE(S): MARPAT 142:490414

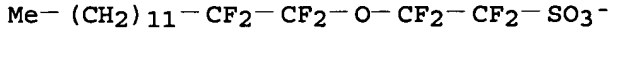
AB Disclosed is a photosensitive compn. for photoresist comprising a sulfonic **acid**-generating compd. represented by HO3S-CR12aR13a-(CR10aR11a)m1(CR8aR9a)m2-A1-(CR6aR7a)m3(CR4aR5a)m4-[A2-(CR1aR3a)m5]pR2a (R1a-13a = H, alkyl, cycloalkyl, halo, OH; A1,2 = divalent bond, single bond; m1-m5 = integer 0-12; and p = integer 0-4). The photosensitive compn. is esp. useful for a F2 excimer laser (157 nm) and an ArF excimer laser (193 nm).

IT **852245-81-9**
RL: NUU (Other use, unclassified); USES (Uses)
(sulfonic **acid**-generating compd.; photosensitive compn. contg. sulfonic **acid**-generating compd.)

RN 852245-81-9 HCAPLUS
CN Sulfonium, didodecyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2-tetrafluoro-2-[(1,1,2,2-tetrafluorotetradecyl)oxy]ethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

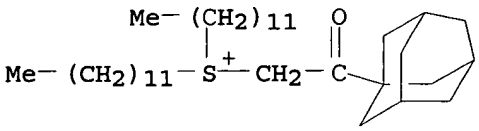
CM 1

CRN 852245-68-2
CMF C16 H25 F8 O4 S



CM 2

CRN 761458-74-6
CMF C36 H67 O S



IC ICM G03F007-004
ICS G03F007-038; G03F007-039; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
ST photosensitive compn UV photoresist sulfonic **acid** generator patterning photolithog
IT Photoresists
(UV; photosensitive compn. contg. sulfonic **acid** -generating compd.)
IT Photoimaging materials
Photolithography
(photosensitive compn. contg. sulfonic **acid**-generating compd.)
IT Sulfonic **acids**, uses
RL: NUU (Other use, unclassified); USES (Uses)
(photosensitive compn. contg. sulfonic **acid**-generating compd.)
IT 414911-60-7 852245-64-8 852245-65-9 852245-67-1 852245-69-3
852245-71-7 852245-73-9 852245-74-0 852245-75-1 852245-76-2
852245-78-4 852245-79-5 852245-80-8 **852245-81-9**
852245-83-1 852245-85-3 852245-87-5 852245-89-7 852245-91-1
852245-92-2
RL: NUU (Other use, unclassified); USES (Uses)
(sulfonic **acid**-generating compd.; photosensitive compn. contg. sulfonic **acid**-generating compd.)

L13 ANSWER 5 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:467854 HCAPLUS
DOCUMENT NUMBER: 143:16503
TITLE: Photosensitive composition containing specific sulfonic **acid**-generating compound for use in the photosensitive composition, and pattern forming method using the photosensitive composition
INVENTOR(S): Wada, Kenji; Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 133 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1536285	A2	20050601	EP 2004-27406	200411

18

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR, IS, YU

JP 2005173549 A2 20050630 JP 2004-222931 200407 30

US 2005123859 A1 20050609 US 2004-993094 2004 11 22

PRIORITY APPLN. INFO.: JP 2003-392790 A 200311 21

JP 2004-222931 A 200407 30

AB Disclosed is a photosensitive compn. comprising a compd. capable of generating a specific sulfonic **acid** upon irradn. with actinic rays or a radiation; a compd. capable of generating a specific sulfonic **acid** upon irradn. with an actinic ray or a radiation; and a pattern forming method using a photosensitive compn. comprising a compd. capable of generating a specific sulfonic **acid** upon irradn. with an actinic ray or a radiation. The compn. provides improved pattern profile.

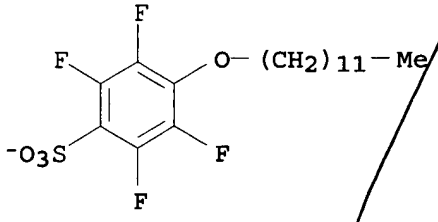
IT **852572-49-7P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photosensitive compn. contg. specific sulfonic **acid** -generating compd. for use in photosensitive compn., and pattern forming method using the photosensitive compn.)

RN 852572-49-7 HCAPLUS

CN Sulfonium, didodecyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 4-(dodecyloxy)-2,3,5,6-tetrafluorobenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

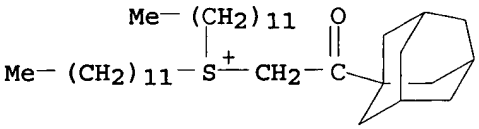
CM 1

CRN 852572-08-8
CMF C18 H25 F4 O4 S



CM 2

CRN 761458-74-6
CMF C36 H67 O S



IC ICM G03F007-004
ICS G03F007-039; G03F007-038
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST photosensitive compn sulfonate **acid** generating pattern photoresist
IT Photolithography
Photoresists
(photosensitive compn. contg. specific sulfonic **acid** -generating compd. for use in photosensitive compn., and pattern forming method using the photosensitive compn.)
IT **Acids**, preparation
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(precursors; photosensitive compn. contg. specific sulfonic **acid**-generating compd. for use in photosensitive compn., and pattern forming method using the photosensitive compn.)
IT 852572-36-2P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(delphotosensitive compn. contg. specific sulfonic **acid** -generating compd. for use in photosensitive compn., and pattern forming method using the photosensitive compn.)
IT 112-53-8, 1-Dodecanol 313-50-8D, Perfluorobenzenesulfonic **acid**, methylpropanyl ester 3744-08-9, Triphenylsulfonium iodide 852572-07-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(photosensitive compn. contg. specific sulfonic **acid** -generating compd. for use in photosensitive compn., and pattern forming method using the photosensitive compn.)
IT 852572-09-9P 852572-11-3P 852572-13-5P 852572-15-7P
852572-17-9P 852572-19-1P 852572-21-5P 852572-23-7P
852572-25-9P 852572-27-1P 852572-29-3P 852572-31-7P
852572-33-9P 852572-34-0P 852572-35-1P 852572-37-3P
852572-38-4P 852572-39-5P 852572-41-9P 852572-42-0P
852572-44-2P 852572-46-4P 852572-47-5P 852572-48-6P
852572-49-7P 852572-52-2P 852572-54-4P 852572-56-6P
852572-58-8P 852572-60-2P 852572-62-4P 852572-64-6P
852572-66-8P 852572-68-0P 852572-69-1P 852572-70-4P
852572-71-5P 852572-72-6P 852572-73-7P 852572-74-8P
852572-76-0P 852572-77-1P 852572-78-2P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photosensitive compn. contg. specific sulfonic **acid** -generating compd. for use in photosensitive compn., and pattern

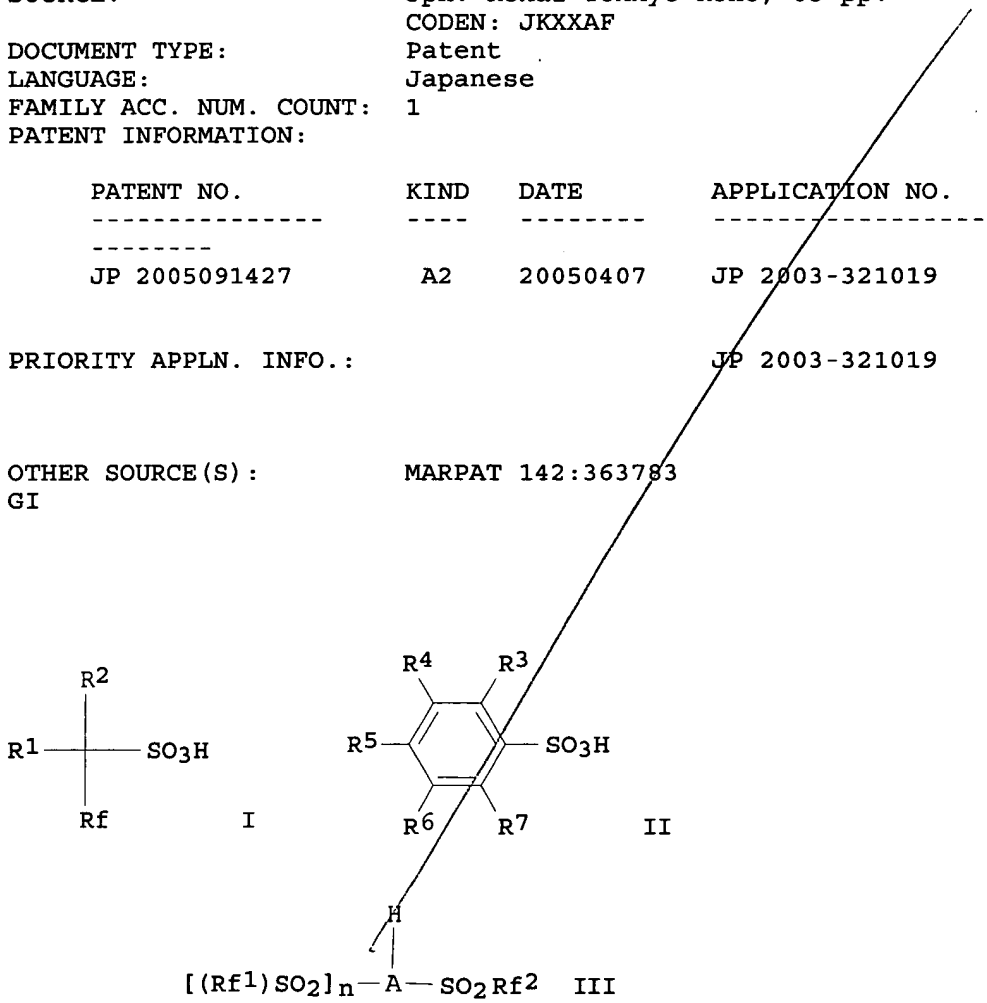
forming method using the photosensitive compn.)

L13 ANSWER 6 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:299604 HCAPLUS
DOCUMENT NUMBER: 142:363783
TITLE: Photosensitive resin compositions with small line edge roughness and method for patterning therewith
INVENTOR(S): Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 63 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005091427	A2	20050407	JP 2003-321019	200309 12

PRIORITY APPLN. INFO.: JP 2003-321019 200309 12

OTHER SOURCE(S): MARPAT 142:363783
GI



AB The compns. comprise (A1) compds. generating **acids** stronger than benzenesulfonic **acid** (BSA) by actinic rays or radiation, (A2) compds. generating **acids** equal to or weaker than BSA by actinic rays or radiation, and (B) resins with Tg 70-150° having mono- or polycyclic hydrocarbon structures and acrylate ester-derived units and showing increase of soly. to alk. developers by **acids**. The compds. A1 may be R1R2RfCSO3H

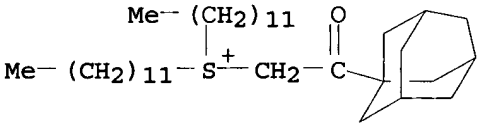
[I; R1 = F, (cyclo)alkyl, aryl(alkyl); R2 = H, F, fluoro(cyclo)alkyl; Rf = F, fluoro(cyclo)alkyl], II [R3-R7 = H, (cyclo)alkyl, electron-withdrawing group; ≥1 of R3-R7 = electron-withdrawing group], or (Rf1SO2)nAH(O2SRf2) [III; A = C, N; Rf1, Rf2 = fluoro(cyclo)alkyl; with the proviso that when A = C, n = 2; when A = N, n = 1]. The compds. A2 may be I [R1 = H, (cyclo)alkyl, aryl(alkyl); R2, Rf = H, (cyclo)alkyl], II (R3-R7 = H, electron-withdrawing group), or III [A = C, N; Rf1, Rf2 = (cyclo)alkyl; with the proviso that when A = C, n = 2; when A = N, n = 1]. Resist films formed from the compns. are exposed and developed to give fine patterns.

IT **848209-22-3**
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generators; pos. photoresist compns. contg. strong and weak **photoacid** generators for precise patterning in small line edge roughness)

RN 848209-22-3 HCAPLUS
CN Sulfonium, didodecyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 761458-74-6
CMF C36 H67 O S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

IC ICM G03F007-039
ICS G03F007-004; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST pos photoresist small line edge roughness; adamantyl norbornyl acrylate pos photoresist photolithog; strong weak **photoacid** generator pos photoresist; plural phenylsulfonium sulfonate **photoacid** generator pos photoresist
IT Photolithography
Positive photoresists
(pos. photoresist compns. contg. strong and weak

photoacid generators for precise patterning in small line edge roughness)

IT 138529-81-4 144317-44-2 160509-80-8 168697-74-3 197447-16-8
227199-92-0 284474-28-8 300374-81-6 301664-71-1 307531-76-6
389859-76-1 398141-17-8 398141-18-9 425670-64-0 460731-18-4
481071-79-8 506445-11-0 610301-07-0 676502-24-2 677351-28-9
680200-03-7 749924-59-2 848209-20-1 848209-21-2
848209-22-3 849178-90-1 849178-92-3 849178-93-4
849178-94-5
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generators; pos. photoresist compns. contg. strong and weak **photoacid** generators for precise patterning in small line edge roughness)

IT 482609-97-2P 581784-06-7P 610300-93-1P 676260-12-1P
677351-19-8P 766528-07-8P 766528-25-0P 766528-39-6P
774242-33-0P 848209-19-8P 848224-35-1P 849178-89-8P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. photoresist compns. contg. strong and weak **photoacid** generators for precise patterning in small line edge roughness)

L13 ANSWER 7 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:275941 HCAPLUS
DOCUMENT NUMBER: 142:363767
TITLE: Stimuli-sensitive photoresists, **acid** or radical generators therefor, and patterning thereof
INVENTOR(S): Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 81 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005084240	A2	20050331	JP 2003-314219	20030905

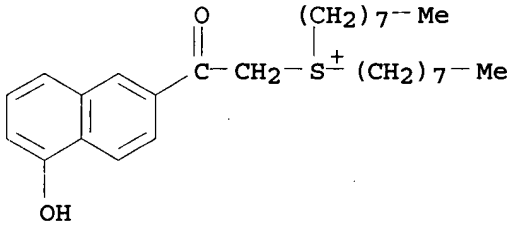
PRIORITY APPLN. INFO.: JP 2003-314219 20030905

OTHER SOURCE(S): MARPAT 142:363767
AB Compds. generating **acids** or radicals by external stimulation, represented by (OH)nArCOCR1R2S+Y1Y2X- [Ar = aryl; R1, R2 = H, (cyclo)alkyl, aryl; Y1, Y2 = (cyclo)alkyl, aryl; n = 1-3; X- = nucleophilic anion], are claimed. Photoresists contg. the compds. and photolithog. patterning thereon are sep. claimed. The photoresists exhibit less dependency of pattern precision on post-exposure bake (PEB) temp.

IT **848864-12-0**
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generators; stimuli-sensitive **photoacid** generators for photoresists with small PEB temp. dependency)
RN 848864-12-0 HCAPLUS
CN Sulfonium, [2-(5-hydroxy-2-naphthalenyl)-2-oxoethyl]dioctyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

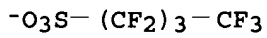
CM 1

CRN 848864-11-9
CMF C28 H43 O2 S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S



IC ICM G03F007-004
ICS H01L021-027; G03F007-038; G03F007-039
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST stimuli sensitive **acid** generator photoresist precision stability; PEB temp dependency reduced amplified photoresist
IT Polysiloxanes, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(Troysol S 366, KP 341; stimuli-sensitive **photoacid** generators for photoresists with small PEB temp. dependency)
IT Positive photoresists
(stimuli-sensitive, chem.-amplified; stimuli-sensitive **photoacid** generators for photoresists with small PEB temp. dependency)
IT 2491-38-5P 848864-23-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(intermediates; stimuli-sensitive **photoacid** generators for photoresists with small PEB temp. dependency)

IT 848863-90-1P 848863-95-6P
RL: CAT (Catalyst use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**photoacid** generators; stimuli-sensitive **photoacid** generators for photoresists with small PEB temp. dependency)

IT 774221-73-7 848863-92-3 848863-98-9 848863-99-0 848864-00-6
848864-01-7 848864-03-9 848864-04-0 848864-06-2 848864-08-4
848864-10-8 **848864-12-0** 848864-14-2 848864-16-4
848864-18-6 848864-20-0 848864-22-2
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generators; stimuli-sensitive **photoacid** generators for photoresists with small PEB temp. dependency)

IT 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl methacrylate copolymer 391232-36-3P, tert-Butyl acrylate-maleic anhydride-2-(4-methylcyclohexyl)-2-propyl acrylate-norbornene copolymer 744246-25-1P, tert-Butyl norbornenecarboxylate-butyrolactone norbornenecarboxylate-maleic anhydride copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. photoresists; stimuli-sensitive **photoacid** generators for photoresists with small PEB temp. dependency)

IT 289623-64-9 312620-54-5 359635-35-1 366808-82-4 391613-77-7
398140-38-0 398140-43-7 398140-45-9 398140-59-5 398140-68-6
398140-69-7 398140-77-7 398140-80-2 482609-97-2 508210-04-6
521303-15-1 521303-16-2 524699-47-6 574735-94-7 610300-92-0
610300-93-1 610300-94-2 610300-95-3 610300-96-4 615278-35-8
848864-25-5 848864-26-6
RL: TEM (Technical or engineered material use); USES (Uses)
(pos. photoresists; stimuli-sensitive **photoacid** generators for photoresists with small PEB temp. dependency)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(stimuli-sensitive **photoacid** generators for photoresists with small PEB temp. dependency)

IT 99-93-4, p-Hydroxyacetophenone 110-01-0, Tetrahydrothiophene 375-73-5, Nonafluorobutanesulfonic **acid** 14104-20-2, Silver tetrafluoroborate
RL: RCT (Reactant); RACT (Reactant or reagent)
(stimuli-sensitive **photoacid** generators for photoresists with small PEB temp. dependency)

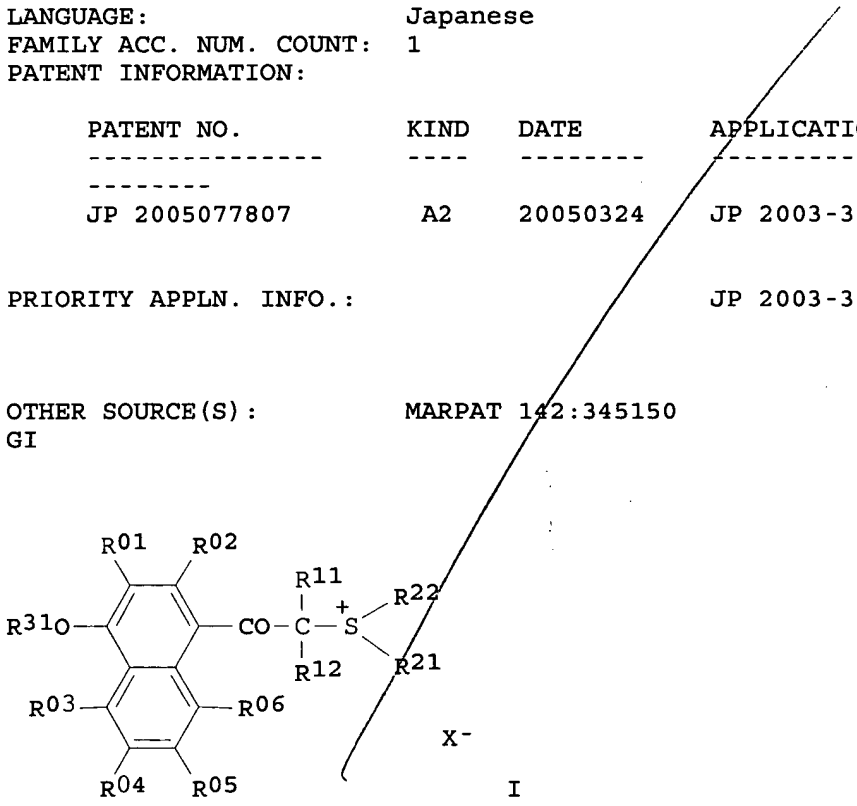
L13 ANSWER 8 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:256538 HCAPLUS
DOCUMENT NUMBER: 142:345150
TITLE: **Photoacid** generator for light-sensitive curable material composition and method for **acid** generation using the same
INVENTOR(S): Kanno, Masaki; Uesugi, Takahiko; Matsumoto, Shigehiro

PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 58 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005077807	A2	20050324	JP 2003-308672	200309 01

PRIORITY APPLN. INFO.: JP 2003-308672 200309 01

OTHER SOURCE(S): MARPAT 142:345150
GI



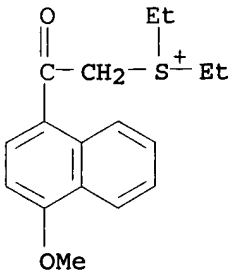
I

AB The title **photoacid** generator has general structure I(R01-06 = H, alkyl, aryl, alkenyl, etc.; R31 = alkyl, alkenyl; R11-12 = H, alkyl , aryl, alkoxyl, alkenyl; R21-22 = alkyl, aryl, alkenyl; X- = anion). The **acid** generator is sensitive to 300-450 nm light without using photosensitizer.

IT **848476-02-8P 848477-52-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(**photoacid** generator)

RN 848476-02-8 HCAPLUS

CN Sulfonium, diethyl[2-(4-methoxy-1-naphthalenyl)-2-oxoethyl]-, bromide (9CI) (CA INDEX NAME)

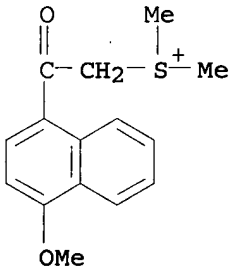


● Br^-

RN 848477-52-1 HCAPLUS
CN Sulfonium, [2-(4-methoxy-1-naphthalenyl)-2-oxoethyl]dimethyl-, tetrakis(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

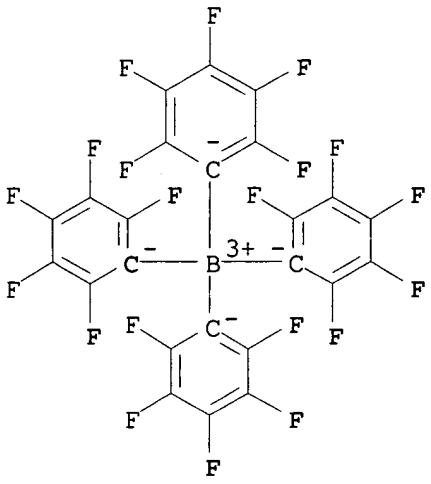
CM 1

CRN 219127-18-1
CMF C15 H17 O2 S



CM 2

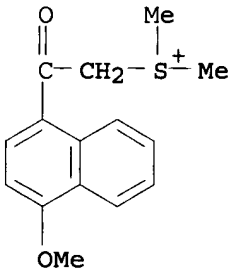
CRN 47855-94-7
CMF C24 B F20
CCI CCS



IT **219127-19-2P 848476-03-9P 848477-54-3P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**photoacid** generator)
RN 219127-19-2 HCAPLUS
CN Sulfonium, [2-(4-methoxy-1-naphthalenyl)-2-oxoethyl]dimethyl-, (OC-6-11)-hexafluoroantimonate(1-) (9CI) (CA INDEX NAME)

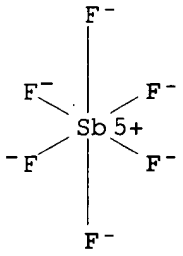
CM 1

CRN 219127-18-1
CMF C15 H17 O2 S



CM 2

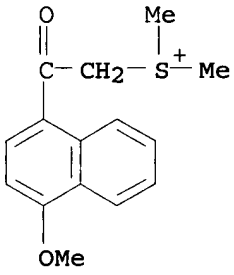
CRN 17111-95-4
CMF F6 Sb
CCI CCS



RN 848476-03-9 HCAPLUS
CN Sulfonium, [2-(4-methoxy-1-naphthalenyl)-2-oxoethyl]dimethyl-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

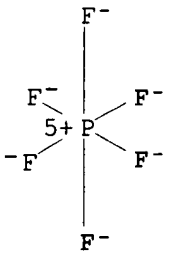
CM 1

CRN 219127-18-1
CMF C15 H17 O2 S



CM 2

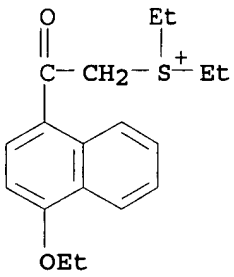
CRN 16919-18-9
CMF F6 P
CCI CCS



RN 848477-54-3 HCAPLUS
CN Sulfonium, [2-(4-ethoxy-1-naphthalenyl)-2-oxoethyl]diethyl-, tetrakis(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

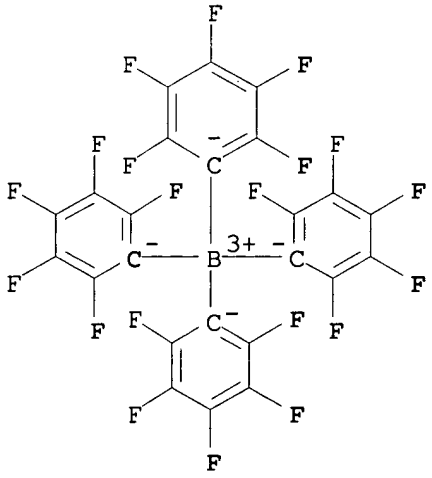
CM 1

CRN 848477-53-2
CMF C18 H23 O2 S



CM 2

CRN 47855-94-7
CMF C24 B F20
CCI CCS



IC ICM G03F007-004
ICS C07C381-12; C09K003-00; G03F007-038
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST **photoacid** generator curable compn **acid** generation
IT Positive photoresists
(**photoacid** generator for light-sensitive curable material compn. and method for **acid** generation using the same)

IT **Acids**, preparation
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**photoacid** generator; **photoacid** generator for light-sensitive curable material compn. and method for **acid** generation using the same)

IT Photoimaging materials
(photopolymerizable; **photoacid** generator for light-sensitive curable material compn. and method for **acid** generation using the same)

IT 75-36-5, Acetyl chloride 2216-69-5, 1-Methoxynaphthalene 5328-01-8, 1-Ethoxynaphthalene 26042-63-7, Silver hexafluorophosphate (AgPF6) 26042-64-8, Silver hexafluoroantimonate (AgSbF6) 29420-49-3, Potassium perfluorobutanesulfonate 149213-65-0, Sodium tetrakis(pentafluorophenyl)borate
RL: RCT (Reactant); RACT (Reactant or reagent)
(**photoacid** generator)

IT 5471-35-2P 24764-66-7P 848476-01-7P **848476-02-8P** **848477-52-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(**photoacid** generator)

IT **219127-19-2P** **848476-03-9P** **848477-54-3P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**photoacid** generator)

L13 ANSWER 9 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:253870 HCAPLUS
DOCUMENT NUMBER: 142:325935
TITLE: Photoresist composition and pattern formation using the same
INVENTOR(S): Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 56 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005077811	A2	20050324	JP 2003-308700	20030901
PRIORITY APPLN. INFO.:			JP 2003-308700	20030901

AB The title compn. contains a **photoacid** generator and a resin increasing the soly. in alkali developers by reacting with an **acid**, wherein the **photoacid** generator generates an arom. sulfonic **acid** or an aliph. sulfonic **acid**

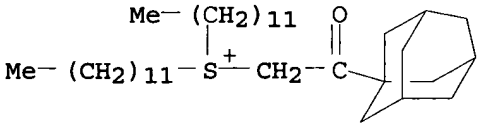
without a F-substituent at α-position and wherein the resin has hydrocarbon rings and acrylate based repeating units and 70-1750° C glass transition temp. The compn. provides improved characteristics on the post exposure delay, the temp. dependency and provides pattern of good profile without edge roughness.

IT **848209-22-3**
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator in compn.)

RN 848209-22-3 HCAPLUS
CN Sulfonium, didodecyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

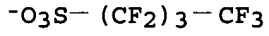
CM 1

CRN 761458-74-6
CMF C36 H67 O S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S



IC ICM G03F007-039
ICS H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37
ST photoresist compn **photoacid** resin
IT 138529-81-4 141714-82-1 144317-44-2, Triphenylsulfonium perfluorobutanesulfonate 168697-74-3 227199-92-0 300374-81-6 343629-51-6 359414-76-9 389859-76-1 471283-62-2 481071-79-8 848209-20-1 848209-21-2 **848209-22-3**
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator in compn.)

L13 ANSWER 10 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:124512 HCAPLUS
DOCUMENT NUMBER: 142:454219
TITLE: Preparation and properties of a kind of sulfonium salt PAG applicable for 193 nm photoresist

AUTHOR(S): Wang, Wen-jun; Li, Hua-min; Wang, Li-yuan
CORPORATE SOURCE: Department of Chemistry, Beijing Normal University, Beijing, 100875, Peop. Rep. China
SOURCE: Ganguang Kexue Yu Guang Huaxue (2005), 23(1), 48-54
CODEN: GKKHE9; ISSN: 1000-3231
PUBLISHER: Kexue Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

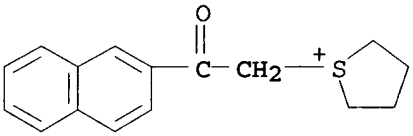
AB Several sulfonium salts with different anions contg. naphthyl group were prepd. These compds. show high pyrolysis temp. and good solubilities in commonly used org. solvents. The UV absorption of the PAGs in aq. soln. and in polyethylene glycol film was measured. The PAGs contg. no benzene group display good transparency at 193 nm. The photolysis properties of the PAGs exposed with lower pressure Hg lamp (254 nm) were investigated with rapid weakening of the absorption peak around 254 nm after exposure. These PAGs are applicable to deep UV, such as ArF(193 nm), chem. amplified photoresist.

IT **160509-78-4P 336109-09-2P 761436-13-9P**
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(sulfonium salt PAG for 193 nm photoresist)

RN 160509-78-4 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

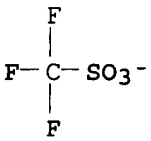
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S

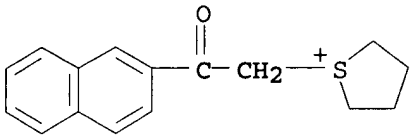


RN 336109-09-2 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-,

methanesulfonate (9CI) (CA INDEX NAME)

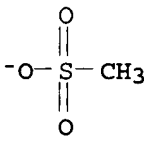
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

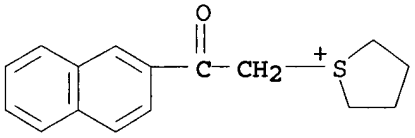
CRN 16053-58-0
CMF C H3 O3 S



RN 761436-13-9 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

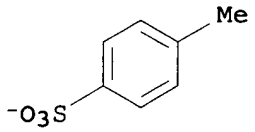
CM 1

CRN 71967-57-2
CMF C16 H17 O S

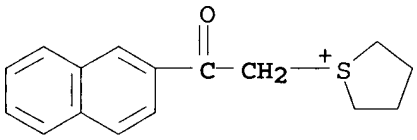


CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



IT **360554-36-5P**
RL: PNU (Preparation, unclassified); PRP (Properties); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(sulfonium salt PAG for 193 nm photoresist)
RN 360554-36-5 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, bromide (9CI) (CA INDEX NAME)



CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST sulfonium salt **photoacid** generator photoresist
IT 75-75-2, Methanesulfonic **acid** 104-15-4, Toluene-p-sulfonic **acid**, reactions 110-01-0, Tetrahydro thiophene 613-54-7, α-Bromo-2-acetonaphthone 1493-13-6, Trifluoromethanesulfonic **acid**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of sulfonium salt PAG for 193 nm photoresist)
IT **160509-78-4P 336109-09-2P 761436-13-9P**
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(sulfonium salt PAG for 193 nm photoresist)
IT **360554-36-5P**
RL: PNU (Preparation, unclassified); PRP (Properties); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(sulfonium salt PAG for 193 nm photoresist)

L13 ANSWER 11 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:75285 HCAPLUS
DOCUMENT NUMBER: 142:165564
TITLE: Radiation-sensitive composition, compound and pattern formation method using the radiation-sensitive composition
INVENTOR(S): Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 79 pp.

CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1500977	A1	20050126	EP 2004-17179	20040721
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
JP 2005055864	A2	20050303	JP 2004-28944	20040205
US 2005019689	A1	20050127	US 2004-893345	20040719
PRIORITY APPLN. INFO.:			JP 2003-277359 A	20030722
			JP 2004-28944 A	20040205

OTHER SOURCE(S): MARPAT 142:165564

AB A stimulus-sensitive compn. comprises a compd.: Y-C(=O)-CR1R2-S+Y1Y2 · X- (Y =aryl, alkyl, cycloalkyl, alkenyl group, etc.; R1,2 = H, alkyl, cycloalkyl, aryl, etc.; Y and R1 may combine to form a ring; Y1,2 = alkyl, cycloalkyl, aryl, etc.; X- = non-nucleophilic anion) that generates one of an **acid** and a radical by external stimulation.

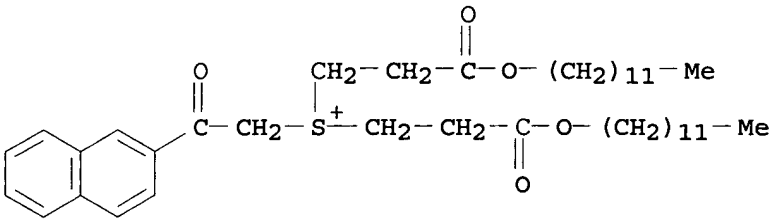
IT **830323-61-0 830323-65-4**
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid** generator; radiation-sensitive compn., compd. and pattern formation method contg.)

RN 830323-61-0 HCAPLUS

CN Sulfonium, bis[3-(dodecyloxy)-3-oxopropyl][2-(2-naphthalenyl)-2-oxoethyl]-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 830323-60-9
CMF C42 H67 O5 S



CM 2

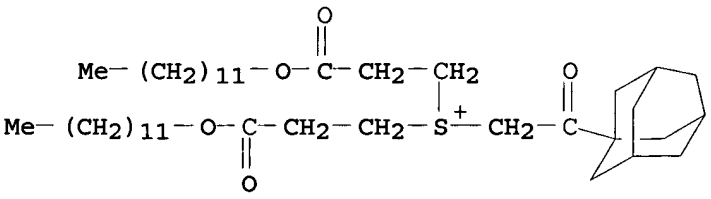
CRN 45187-15-3
CMF C4 F9 O3 S

$^{-}O_3S-(CF_2)_3-CF_3$

RN 830323-65-4 HCAPLUS
CN Sulfonium, bis[3-(dodecyloxy)-3-oxopropyl](2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 830323-64-3
CMF C42 H75 O5 S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

$^{-}O_3S-(CF_2)_3-CF_3$

IC ICM G03F007-004
ICS G03F007-039; G03F007-038
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38

IT 830323-41-6P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**acid** generator; radiation-sensitive compn., compd. and pattern formation method contg.)
IT 617692-53-2 830323-42-7 830323-43-8 830323-45-0 830323-47-2
830323-49-4 830323-51-8 830323-53-0 830323-55-2 830323-57-4
830323-59-6 **830323-61-0** 830323-63-2 **830323-65-4**
830323-67-6 830323-69-8 830323-71-2 830323-73-4 830323-75-6
830323-77-8 830323-79-0 830323-81-4 830323-83-6 830323-85-8
830323-87-0 830323-89-2
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid** generator; radiation-sensitive compn., compd. and pattern formation method contg.)
IT 70-11-1, Phenacyl bromide 4131-74-2 29420-49-3, Potassium nonafluorobutanesulfonate
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of **acid** generator for radiation-sensitive compn.)
IT 830323-90-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of **acid** generator for radiation-sensitive compn.)
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 12 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:57039 HCAPLUS
DOCUMENT NUMBER: 142:144113
TITLE: Heat-sensitive lithographic plates showing good on-machine developability and scratch resistance to form high-quality images
INVENTOR(S): Yamazaki, Sumiaki; Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 56 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005014514	A2	20050120	JP 2003-185213	200306 27

PRIORITY APPLN. INFO.: JP 2003-185213 200306 27

OTHER SOURCE(S): MARPAT 142:144113
AB The plates have, on hydrophilic supports, heat-sensitive layers contg. (A) **acid**- or radically polymerizable compds., (B)

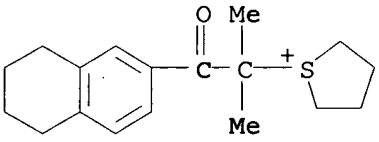
photothermal converters, and (C) thermally **acid** /radical-generating compds. chosen from (c1) ArCOCR6R7S+Y1Y2X- (Ar = aryl, heteroarom.; R6 = H, CN, alkyl, aryl; R7 = alkyl, aryl; Y1, Y2 = alkyl, aryl, aralkyl, heteroarom.; X- = non-nucleophilic anion), (c2) R3(R2C:CR1)nCOCR4R5S+Y3Y4X- [R1-R3 = H, alkyl(oxy), alkenyl, aryl; R4, R5 = H, CN, alkyl(oxy), aryl; Y3, Y4 = alkyl, aryl, aralkyl, heteroarom.; n = 1-4; X- = same as above], (c3) R3CO(R1C:CR2)nCR4R5S+Y3Y4X- (R1-R5, Y3, Y4, X-, n = same as above), and/or (c4) WmZS+Y5Y6X- [Y5, Y6 = (oxo)alkyl, aryl, (oxo)aralkyl, heterocyclic; Z = single bond, org. group; W = CONRa-contg. group, SO2NRa-contg. group; Ra = H, alkyl; m = 1-3; X- = same as above]. The layers are removable with printing inks and/or dampening water. Alternatively, the plates contain A-including microcapsules in heat-sensitive layers and c1, c2, c3, and/or c4 in the layers or in neighboring layers. The plates are useful for IR scanning exposure.

IT **676502-29-7**
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**acid**/radical generators; heat-sensitive lithog. plates showing good on-machine developability and scratch resistance to form high-quality images)

RN 676502-29-7 HCAPLUS
CN Thiophenium, 1-[1,1-dimethyl-2-oxo-2-(5,6,7,8-tetrahydro-2-naphthalenyl)ethyl]tetrahydro-, salt with 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

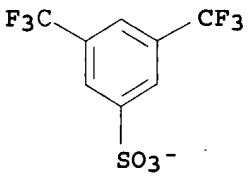
CM 1

CRN 676502-28-6
CMF C18 H25 O S



CM 2

CRN 213740-84-2
CMF C8 H3 F6 O3 S



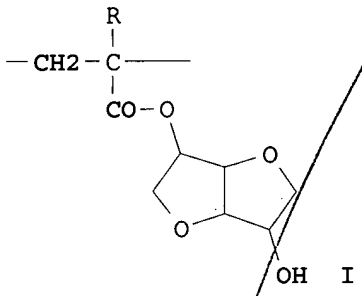
IC ICM B41N001-14

ICS G03F007-00; G03F007-004
CC 74-6 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38
ST heat sensitive lithog plate on machine developability; **acid** radically polymerizable lithog plate photothermal converter; isobutyrophenone sulfonium fluorobutanesulfonate **acid** radical generator; microcapsule heat sensitive lithog plate IR scanning
IT 470482-89-4P 524959-11-3P 524959-28-2P 610301-07-0P 617692-19-0P
RL: CAT (Catalyst use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**acid**/radical generators; heat-sensitive lithog. plates showing good on-machine developability and scratch resistance to form high-quality images)
IT 610301-09-2 617692-26-9 676502-11-7 **676502-29-7** 823816-98-4 823816-99-5 823817-00-1
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**acid**/radical generators; heat-sensitive lithog. plates showing good on-machine developability and scratch resistance to form high-quality images)
IT 1440-60-4P, N-Chloroacetylpiperidine 39158-85-5P, Isobutyrophenone trimethylsilyl enol ether 80239-27-6P 86370-82-3P 617692-18-9P 681215-86-1P 823838-57-9P, 4-(tert-Butylacetyl)toluene trimethylsilyl enol ether
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(in prepn. of **acid**/radical generators; heat-sensitive lithog. plates showing good on-machine developability and scratch resistance to form high-quality images)
IT 78-59-1, Isophorone 108-88-3, Toluene, reactions 110-01-0, Tetrahydrothiophene 110-89-4, Piperidine, reactions 141-79-7, Mesityl oxide 611-70-1, Isobutyrophenone 1600-44-8, Tetramethylene sulfoxide 2168-93-6, Dibutyl sulfoxide 7065-46-5, tert-Butylacetyl chloride 29420-49-3, Potassium nonafluorobutanesulfonate
RL: RCT (Reactant); RACT (Reactant or reagent)
(in prepn. of **acid**/radical generators; heat-sensitive lithog. plates showing good on-machine developability and scratch resistance to form high-quality images)

L13 ANSWER 13 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:1018941 HCAPLUS
DOCUMENT NUMBER: 142:13678
TITLE: Positive-working resist composition sensitive far-UV light
INVENTOR(S): Sato, Kenichiro; Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 61 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004333925	A2	20041125	JP 2003-130385	20030508
PRIORITY APPLN. INFO.:			JP 2003-130385	20030508

GI



I

AB Disclosed is the pos.-working resist compn. comprising (A) a resin which is able to increase its soly. in an alkali developer upon the interaction with an **acid** and has a repeating unit represented by I (R = H, alkyl), (B) a **photoacid** represented by R1sR2sR3sS+ X- (R1s-3s = alkyl; and X- = anion), and (C) a solvent.

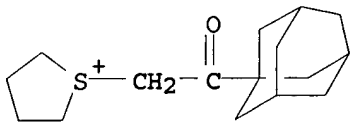
IT **761458-64-4 761458-65-5**
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid**; pos.-working resist compn. sensitive far-UV light)

RN 761458-64-4 HCAPLUS

CN Thiophenium, tetrahydro-1-(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

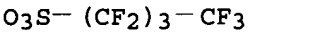
CM 1

CRN 761458-63-3
CMF C16 H25 O S



CM 2

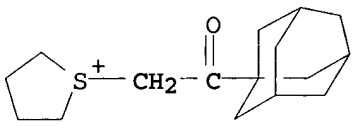
CRN 45187-15-3
CMF C4 F9 O3 S



RN 761458-65-5 HCAPLUS
CN Thiophenium, tetrahydro-1-(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

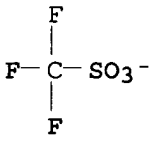
CM 1

CRN 761458-63-3
CMF C16 H25 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



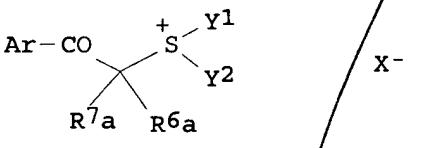
IC ICM G03F007-039
ICS C08F020-28; G03F007-004; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38
ST pos working photoresist resist compn far UV; alkali sol resin **photoacid**
IT 66003-78-9 144317-44-2 284474-28-8 301153-78-6 338445-31-1 347193-28-6 347193-29-7 383367-32-6 454471-25-1 481071-85-6 540729-49-5 677351-28-9 **761458-64-4 761458-65-5** 798562-57-9
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid**; pos.-working resist compn. sensitive far-UV light)

L13 ANSWER 14 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:842646 HCAPLUS
DOCUMENT NUMBER: 141:358070
TITLE: Positive-working chemically amplified photoresist composition
INVENTOR(S): Nishiyama, Fumiyuki; Fujimori, Toru; Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 70 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004287195	A2	20041014	JP 2003-80679	20030324

PRIORITY APPLN. INFO.: JP 2003-80679 20030324

OTHER SOURCE(S): MARPAT 141:358070
GI



I

AB The title compn. contains **acid**-sensitive alkali-solubilizable resins and a **photoacid** generator, wherein the resins include a resin having unit -O-C(H)(CH3)-O-[-C(R1)(R2)]m-Z1(R1-2 = H, alkyl; m = integer 1-20; Z1 = no definition provided), and/or a resin having unit -O-C(H)(CH3)-O-R4(R4 = alkyl), and a resin having unit -O-C(R5)(R6)-O-X-[-Y]1-Z2(R5-6 = H, alkyl; X = alkylene; Y = 2-valent connecting group; Z2 = heterocyclic ring; 1 = 0,1) and wherein the **photoacid** generator has general structure I(Ar = aryl, arom. group with hetero atom; R6a = H, CN, alkyl, aryl; R7a = alkyl, aryl; Y1-2s = alkyl, aryl, aralkyl,arom. group with hetero atom; X- = non-nucleophilic anion). The compn. provides pattern of precise line width on a high reflective rough-surface substrate.

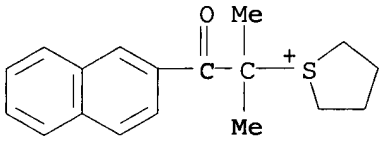
IT **610301-40-1 676502-29-7 704912-07-2 774221-76-0**
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working photoresist)

RN 610301-40-1 HCAPLUS
CN Thiophenium, 1-[1,1-dimethyl-2-(2-naphthalenyl)-2-

oxoethyl]tetrahydro-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 610301-39-8
CMF C18 H21 O S



CM 2

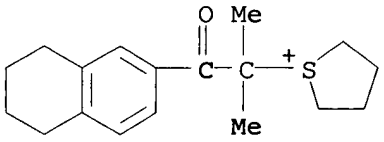
CRN 45187-15-3
CMF C4 F9 O3 S

$^{-}O_3S-(CF_2)_3-CF_3$

RN 676502-29-7 HCAPLUS
CN Thiophenium, 1-[1,1-dimethyl-2-oxo-2-(5,6,7,8-tetrahydro-2-naphthalenyl)ethyl]tetrahydro-, salt with 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

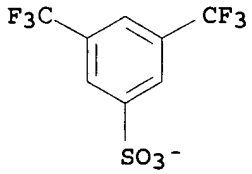
CM 1

CRN 676502-28-6
CMF C18 H25 O S



CM 2

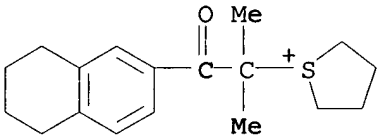
CRN 213740-84-2
CMF C8 H3 F6 O3 S



RN 704912-07-2 HCAPLUS
CN Thiophenium, 1-[1,1-dimethyl-2-oxo-2-(5,6,7,8-tetrahydro-2-naphthalenyl)ethyl]tetrahydro-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

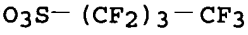
CM 1

CRN 676502-28-6
CMF C18 H25 O S



CM 2

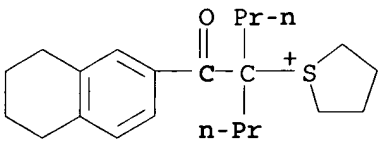
CRN 45187-15-3
CMF C4 F9 O3 S



RN 774221-76-0 HCAPLUS
CN Thiophenium, tetrahydro-1-[1-propyl-1-[(5,6,7,8-tetrahydro-2-naphthalenyl)carbonyl]butyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 774221-75-9
CMF C22 H33 O S



CM 2

CRN 45298-90-6
CMF C8 F17 O3 S

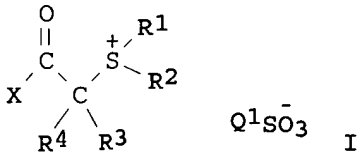
$^{-}O_3S-(CF_2)_7-CF_3$

IC ICM G03F007-039
ICS G03F007-004; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 110-75-8, 2-Chloroethylvinyl ether 1918-77-0, Thiophen-2-ylacetic **acid**
RL: RCT (Reactant); RACT (Reactant or reagent)
(pos.-working photoresist)
IT 138529-81-4 197447-16-8 470482-89-4 506445-12-1 592544-87-1
610301-07-0 610301-08-1 610301-09-2 610301-14-9 610301-16-1
610301-18-3 610301-19-4 610301-34-3 **610301-40-1**
610301-42-3 610301-44-5 676502-26-4 676502-27-5
676502-29-7 680200-03-7 **704912-07-2**
774221-61-3 774221-63-5 774221-65-7 774221-66-8 774221-67-9
774221-68-0 774221-70-4 774221-71-5 774221-73-7 774221-74-8
774221-76-0
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working photoresist)

L13 ANSWER 15 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:823478 HCAPLUS
DOCUMENT NUMBER: 141:340384
TITLE: Positive-working photoresist composition containing specific **acid** generator
INVENTOR(S): Takahashi, Akira; Kodama, Kunihiko; Kawabe, Yasumasa
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 57 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004279576	A2	20041007	JP 2003-68448	200303 13
PRIORITY APPLN. INFO.:			JP 2003-68448	200303 13

OTHER SOURCE(S): MARPAT 141:340384
GI



I

AB The title compn. contains an alkali-solubilizable resin having alicyclic groups and an actinic ray or radiation-sensitive **acid** generator, wherein the **acid** generator has general structure I(R1-2 = alkyl, aryl, heterocyclic ring; R3-4 = H, alkyl, aryl; X = alkyl, aryl, alicyclic group, heterocyclic group; q1 = f-substituted alkyl, aryl). The compn. is suitable for exposure light from Ar excimer laser.

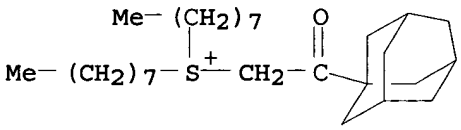
IT **761458-72-4 769952-31-0 769952-32-1**
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid** generator in pos.-working photoresist compn.)

RN 761458-72-4 HCAPLUS

CN Sulfonium, dioctyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

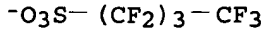
CM 1

CRN 761458-71-3
CMF C28 H51 O S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

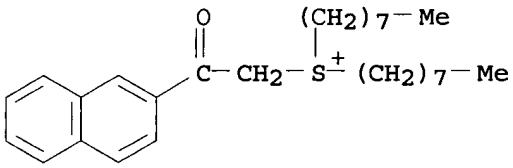


RN 769952-31-0 HCAPLUS

CN Sulfonium, [2-(2-naphthalenyl)-2-oxoethyl]dioctyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 769952-30-9
CMF C28 H43 O S



CM 2

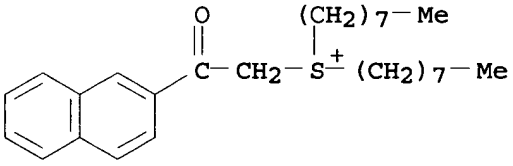
CRN 45187-15-3
CMF C4 F9 O3 S

$^{-}O_3S-(CF_2)_3-CF_3$

RN 769952-32-1 HCAPLUS
CN Sulfonium, [2-(2-naphthalenyl)-2-oxoethyl]dioctyl-, salt with 3,5-dimethylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

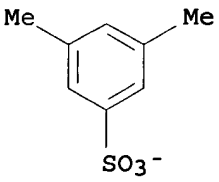
CM 1

CRN 769952-30-9
CMF C28 H43 O S



CM 2

CRN 441296-87-3
CMF C8 H9 O3 S



IC ICM G03F007-039

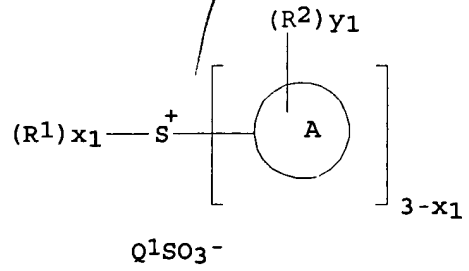
ICS G03F007-004; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT **Acids**, uses
RL: TEM (Technical or engineered material use); USES (Uses) (precursors; pos.-working photoresist compn.)
IT 66003-78-9 144317-44-2 **761458-72-4** 769952-23-0 769952-25-2 769952-27-4 769952-29-6 **769952-31-0** **769952-32-1** 769952-33-2 769952-35-4 769952-37-6
RL: TEM (Technical or engineered material use); USES (Uses) (**acid** generator in pos.-working photoresist compn.)

L13 ANSWER 16 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:820186 HCAPLUS
DOCUMENT NUMBER: 141:322578
TITLE: Positive-working photoresist composition containing specific **photoacid** generator
INVENTOR(S): Takahashi, Omote; Kodama, Kunihiko; Kawabe, Yasumasa
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 54 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004279554	A2	20041007	JP 2003-68260	200303 13

PRIORITY APPLN. INFO.: JP 2003-68260 200303 13

OTHER SOURCE(S): MARPAT 141:322578
GI



I

AB The title compn. contains an alkali-solubilizable resin having 2-alkyl-2-adamantyl- or 1-alkyl-1-adamantyl-protecting groups and a **photoacid** generator of I(A = arom. ring, heterocyclic ring; R1 = alkyl, alicyclic group; R2 = H, alkyl, alicyclic group, etc.; x1 = 1-3; Y1 = 1-(15-5Xx1); Q1 =f-contg., alkyl, aryl, etc.). The compn. shows high sensitivity and good storageability and provides photoresist of high resoln. and good profile.

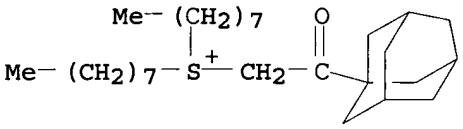
IT **761458-72-4**
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working photoresist compn.)

RN 761458-72-4 HCAPLUS

CN Sulfonium, dioctyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 761458-71-3
CMF C28 H51 O S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

$^{-}O_3S-(CF_2)_3-CF_3$

IC ICM G03F007-039
ICS G03F007-004; H01L021-027

CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST pos photoresist compn **photoacid** generator

IT **Acids**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(precursor; pos.-working photoresist compn.)

IT 66003-78-9, Triphenylsulfonium triflate 398141-23-6 425670-64-0
474510-73-1 474516-42-2 500149-36-0 506445-10-9 508210-39-7
761458-72-4 768361-96-2 768361-97-3 768361-99-5
768362-00-1 768362-02-3
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working photoresist compn.)

L13 ANSWER 17 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

Applicant

ACCESSION NUMBER: 2004:780222 HCAPLUS
DOCUMENT NUMBER: 141:304282
TITLE: Stimulus sensitive compound such as light-sensitive **acid** or radical precursors and stimulus sensitive composition containing the same
INVENTOR(S): Kodama, Kunihiko; Takahashi, Hyou
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 56 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004185378	A1	20040923	US 2004-799864	20040315
JP 2004277303	A2	20041007	JP 2003-68447	20030313

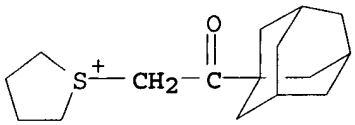
PRIORITY APPLN. INFO.: JP 2003-68447 A 20030313

OTHER SOURCE(S): MARPAT 141:304282

AB The invention relates to a stimulus sensitive compn. contg. a compd. capable of generating an **acid** or a radical on receipt of an external stimulus such as light-irradn., the compd. being represented as Y-CO-C(R1)(R2)-S+(Y1)(Y2) (Y = group having a bridged cyclic structure; R1-2 = H, alkyl, aryl; Y1-2 = alkyl, aryl; X - = non-nucleophilic anion). The compn. is cured with **acids** or radicals and suitable for use in the fabrication of semiconductor devices, printed circuit boards for liq. crystal displays, thermal heads, lithog. printing plates, etc.

IT **652969-81-8P 761458-86-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(stimulus sensitive compd.)

RN 652969-81-8 HCAPLUS
CN Thiophenium, tetrahydro-1-(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, bromide (9CI) (CA INDEX NAME)

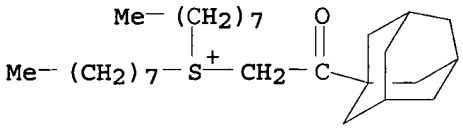


● Br^-

RN 761458-86-0 HCAPLUS
CN Sulfonium, dioctyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, tetrafluoroborate(1-) (9CI) (CA INDEX NAME)

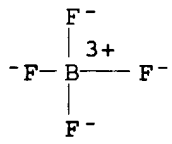
CM 1

CRN 761458-71-3
CMF C28 H51 O S



CM 2

CRN 14874-70-5
CMF B F4
CCI CCS

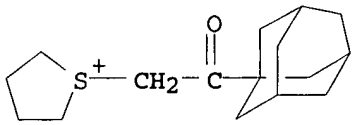


IT **761458-64-4P 761458-65-5P 761458-66-6P**
761458-67-7P 761458-68-8P 761458-70-2P
761458-72-4P 761458-73-5P 761458-75-7P
761458-77-9P 761458-79-1P 761458-80-4P
761458-87-1P 761458-88-2P 761458-89-3P
761458-90-6P 761458-91-7P 761458-92-8P
761458-94-0P 761458-96-2P 761458-97-3P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(stimulus sensitive compd.)
RN 761458-64-4 HCAPLUS
CN Thiophenium, tetrahydro-1-(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-

ylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

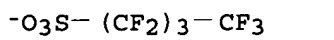
CM 1

CRN 761458-63-3
CMF C16 H25 O S



CM 2

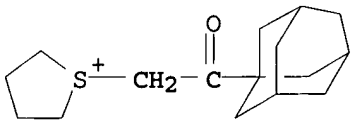
CRN 45187-15-3
CMF C4 F9 O3 S



RN 761458-65-5 HCAPLUS
CN Thiophenium, tetrahydro-1-(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

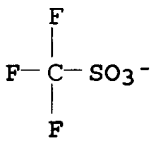
CM 1

CRN 761458-63-3
CMF C16 H25 O S



CM 2

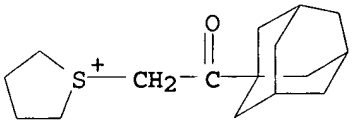
CRN 37181-39-8
CMF C F3 O3 S



RN 761458-66-6 HCAPLUS
CN Thiophenium, tetrahydro-1-(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 761458-63-3
CMF C16 H25 O S



CM 2

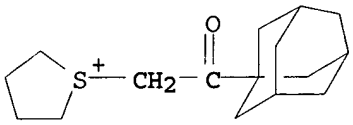
CRN 45298-90-6
CMF C8 F17 O3 S

$^{-}O_3S-(CF_2)_7-CF_3$

RN 761458-67-7 HCAPLUS
CN Thiophenium, tetrahydro-1-(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

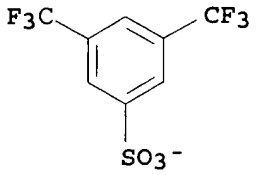
CM 1

CRN 761458-63-3
CMF C16 H25 O S



CM 2

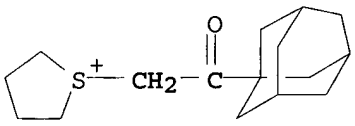
CRN 213740-84-2
CMF C8 H3 F6 O3 S



RN 761458-68-8 HCAPLUS
CN Thiophenium, tetrahydro-1-(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-N-[(nonafluorobutyl)sulfonyl]-1-butanesulfonamide (1:1) (9CI) (CA INDEX NAME)

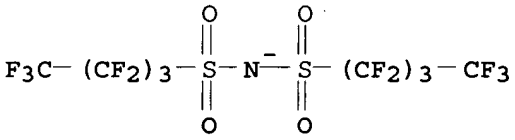
CM 1

CRN 761458-63-3
CMF C16 H25 O S



CM 2

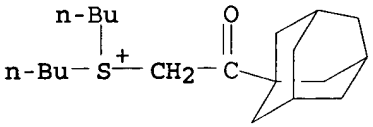
CRN 191101-38-9
CMF C8 F18 N O4 S2



RN 761458-70-2 HCAPLUS
CN Sulfonium, dibutyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

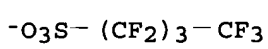
CM 1

CRN 761458-69-9
CMF C20 H35 O S



CM 2

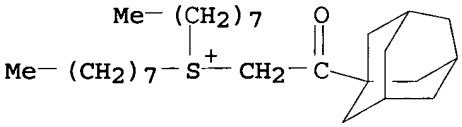
CRN 45187-15-3
CMF C4 F9 O3 S



RN 761458-72-4 HCAPLUS
CN Sulfonium, dioctyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

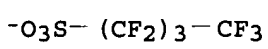
CM 1

CRN 761458-71-3
CMF C28 H51 O S



CM 2

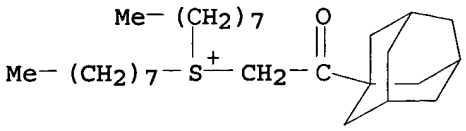
CRN 45187-15-3
CMF C4 F9 O3 S



RN 761458-73-5 HCAPLUS
CN Sulfonium, dioctyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

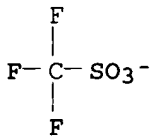
CM 1

CRN 761458-71-3
CMF C28 H51 O S



CM 2

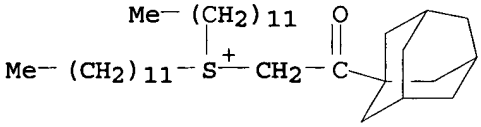
CRN 37181-39-8
CMF C F3 O3 S



RN 761458-75-7 HCAPLUS
CN Sulfonium, didodecyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 761458-74-6
CMF C36 H67 O S



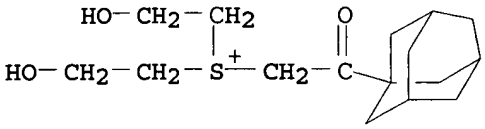
CM 2

CRN 45298-90-6
CMF C8 F17 O3 S

RN 761458-77-9 HCAPLUS
CN Sulfonium, bis(2-hydroxyethyl)(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,5,5,5-undecafluoro-1-pentanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

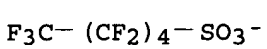
CM 1

CRN 761458-76-8
CMF C16 H27 O3 S



CM 2

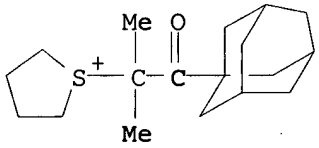
CRN 175905-36-9
CMF C5 F11 O3 S



RN 761458-79-1 HCAPLUS
CN Thiophenium, 1-(1,1-dimethyl-2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)tetrahydro-, salt with 1,1,2,2,3,3,4,4,5,5,5-undecafluoro-1-pentanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

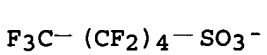
CM 1

CRN 761458-78-0
CMF C18 H29 O S



CM 2

CRN 175905-36-9
CMF C5 F11 O3 S

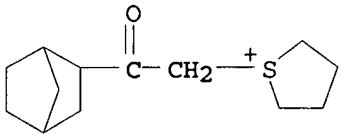


RN 761458-80-4 HCAPLUS
CN Thiophenium, 1-(2-bicyclo[2.2.1]hept-2-yl-2-oxoethyl)tetrahydro-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

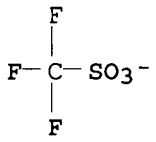
CRN 601520-50-7

CMF C13 H21 O S



CM 2

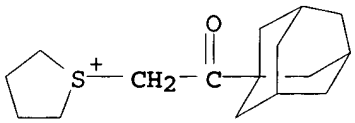
CRN 37181-39-8
CMF C F3 O3 S



RN 761458-87-1 HCAPLUS
CN Thiophenium, tetrahydro-1-(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with pentafluorobenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

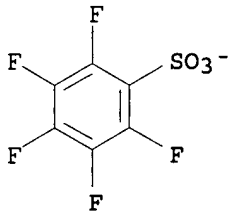
CM 1

CRN 761458-63-3
CMF C16 H25 O S



CM 2

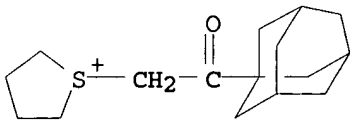
CRN 46377-88-2
CMF C6 F5 O3 S



RN 761458-88-2 HCAPLUS
CN Thiophenium, tetrahydro-1-(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 7,7-dimethyl-2-oxobicyclo[2.2.1]heptane-1-methanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

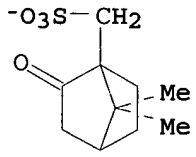
CM 1

CRN 761458-63-3
CMF C16 H25 O S



CM 2

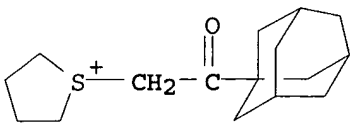
CRN 55077-28-6
CMF C10 H15 O4 S



RN 761458-89-3 HCAPLUS
CN Thiophenium, tetrahydro-1-(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 2,4,6-tris(1-methylethyl)benzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

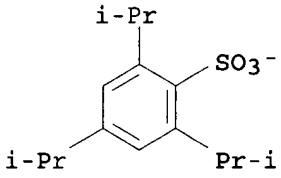
CM 1

CRN 761458-63-3
CMF C16 H25 O S



CM 2

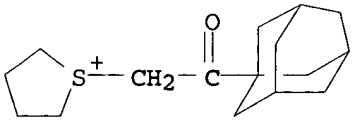
CRN 46950-23-6
CMF C15 H23 O3 S



RN 761458-90-6 HCAPLUS
CN Thiophenium, tetrahydro-1-(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1',1''-[methylidynetris(sulfonyl)]tris[1,1,2,2,3,3,4,4,4-nonafluorobutane] (1:1) (9CI) (CA INDEX NAME)

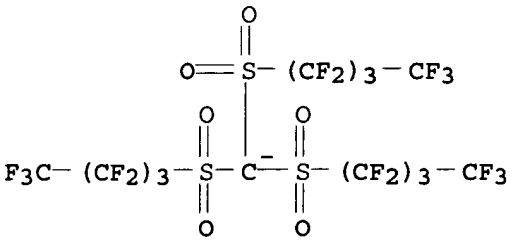
CM 1

CRN 761458-63-3
CMF C16 H25 O S



CM 2

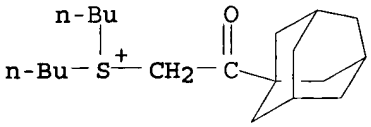
CRN 460731-22-0
CMF C13 F27 O6 S3



RN 761458-91-7 HCAPLUS
CN Sulfonium, dibutyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

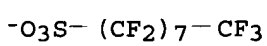
CM 1

CRN 761458-69-9
CMF C20 H35 O S



CM 2

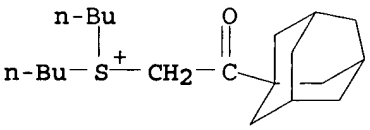
CRN 45298-90-6
CMF C8 F17 O3 S



RN 761458-92-8 HCAPLUS
CN Sulfonium, dibutyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

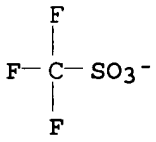
CM 1

CRN 761458-69-9
CMF C20 H35 O S



CM 2

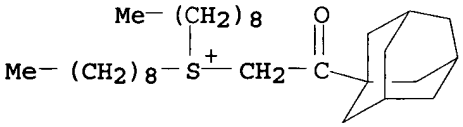
CRN 37181-39-8
CMF C F3 O3 S



RN 761458-94-0 HCAPLUS
CN Sulfonium, dinonyl(2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

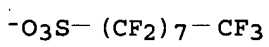
CM 1

CRN 761458-93-9
CMF C30 H55 O S



CM 2

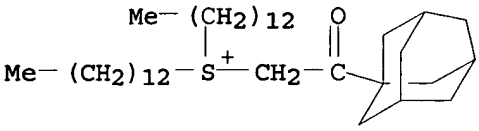
CRN 45298-90-6
CMF C8 F17 O3 S



RN 761458-96-2 HCAPLUS
CN Sulfonium, (2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)ditridecyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 761458-95-1
CMF C38 H71 O S



CM 2

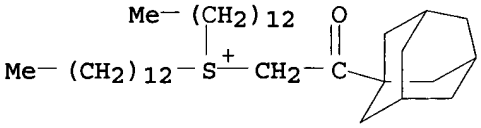
CRN 45187-15-3
CMF C4 F9 O3 S

$^{-}O_3S-(CF_2)_3-CF_3$

RN 761458-97-3 HCAPLUS
CN Sulfonium, (2-oxo-2-tricyclo[3.3.1.13,7]dec-1-ylethyl)ditridecyl-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

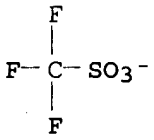
CM 1

CRN 761458-95-1
CMF C38 H71 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



IC ICM G03C005-00
INCL 430311000
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST stimulus sensitive compd compn radical **acid**
IT **Acids**, preparation
Radicals, preparation
RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(precursors; stimulus sensitive compd. and stimulus sensitive compn. contg. the same)
IT **652969-81-8P 761458-86-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(stimulus sensitive compd.)
IT **761458-64-4P 761458-65-5P 761458-66-6P**
761458-67-7P 761458-68-8P 761458-70-2P

761458-72-4P 761458-73-5P 761458-75-7P
761458-77-9P 761458-79-1P 761458-80-4P
761458-82-6P 761458-84-8P **761458-87-1P**
761458-88-2P 761458-89-3P 761458-90-6P
761458-91-7P 761458-92-8P 761458-94-0P
761458-96-2P 761458-97-3P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(stimulus sensitive compd.)

L13 ANSWER 18 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:507992 HCAPLUS
DOCUMENT NUMBER: 141:62100
TITLE: Photosensitive resin composition containing specific photo-**acid** generator
INVENTOR(S): Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 81 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

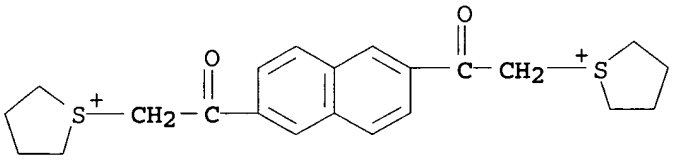
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004177486	A2	20040624	JP 2002-340914	200211 25

PRIORITY APPLN. INFO.: JP 2002-340914 200211 25

OTHER SOURCE(S): MARPAT 141:62100
AB The **acid** generator X1-·Y1Y2S+CR1R2COA(COCR3R4S+Y3Y4)n·nX2- (I; R1-4 = H, alkyl, aryl; Y1-4 = alkyl, aryl; X1-, X2- = non-nucleophilic anion; A = bond, (n + 1)-valent linkage; n = 1-2; Y1 and Y2, Y3 and Y4, R1 and R2, R3 and R4, R1 and A, R1 and R3, R3 and A may form a ring) is claimed. The photosensitive resin compn. contains I, generating an **acid** by irradn. of actinic ray. The **acid** generator shows high transparency at ≤220 nm beam, and the compn. shows high sensitivity, resoln., wide defocus latitude, and gives patterns with good profile.
IT **706814-74-6**
RL: TEM (Technical or engineered material use); USES (Uses)
(photosensitive resin compn. contg. sulfonium compd. photo-**acid** generator)
RN 706814-74-6 HCAPLUS
CN Thiophenium, 1,1'-[2,6-naphthalenediylbis(2-oxo-2,1-ethanediyl)]bis[tetrahydro-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 706814-73-5
CMF C22 H26 O2 S2



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

$^{-}O_3S-(CF_2)_3-CF_3$

IC ICM G03F007-004
ICS G03F007-038; G03F007-039; H01L021-027; C07D333-46
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST photoresist sulfonium **photoacid** generator
IT Photoresists
(photosensitive resin compn. contg. sulfonium compd. photo-**acid** generator)
IT 704912-14-1 704912-17-4 706814-55-3 706814-56-4 706814-57-5
706814-58-6 706814-59-7 706814-61-1 706814-63-3 706814-65-5
706814-66-6 706814-68-8 706814-70-2 706814-72-4
706814-74-6 706814-76-8 706814-78-0 706814-80-4
RL: TEM (Technical or engineered material use); USES (Uses)
(photosensitive resin compn. contg. sulfonium compd. photo-**acid** generator)
IT 4073-80-7P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of **photoacid** generator)
IT 101-84-8, Diphenyl ether 110-01-0, Tetrahydrothiophene
22118-09-8, Bromoacetyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of **photoacid** generator)

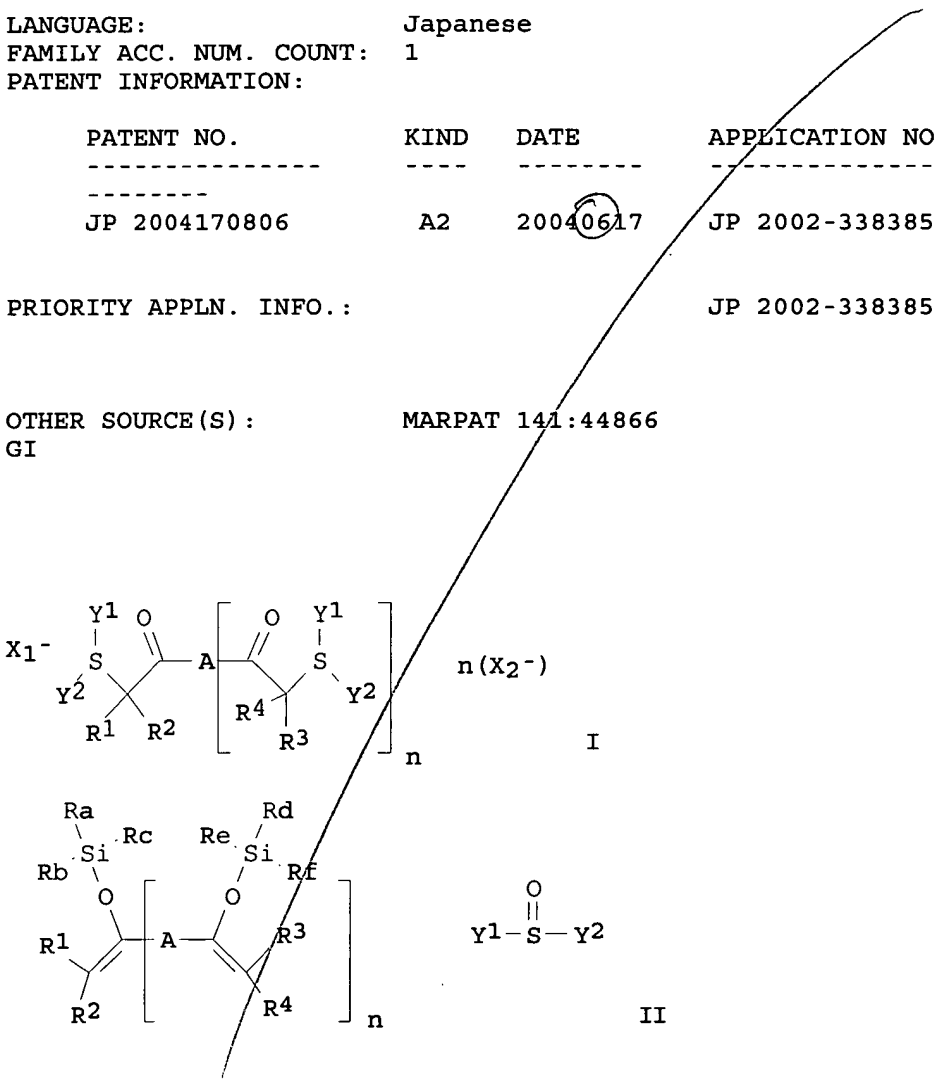
L13 ANSWER 19 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:493095 HCAPLUS
DOCUMENT NUMBER: 141:44866
TITLE: Manufacture of photoresist composition containing specific sulfonium salt
INVENTOR(S): Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004170806	A2	20040617	JP 2002-338385	200211 21

PRIORITY APPLN. INFO.: JP 2002-338385 200211 21

OTHER SOURCE(S): MARPAT 141:44866
GI



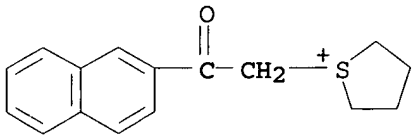
AB The compn. contains I prepd. by (1) forming a sulfonium salt skeleton from silyl ether II and sulfoxide Y1(SO)Y2 [R1-4 = H, alkyl, aryl; Y1-2 = alkyl, aryl, they may form a ring; X1-, X2- = non-nucleophilic anion; n = 0-2; when n = 0, A = alkyl, aryl, alkenyl; when n = 1, A = bond or divalent linkage; when n = 2, A = trivalent linkage; Ra-f = alkyl, aryl; R1 and R2, R3 and R4, R1 and A, R1 and R3, R3 and A may form a ring] and (2) anion exchange. As Ag is not used in prepn. of the sulfonium salt, the photosensitive compn. contains less Ag and shows good storage stability.

IT **160509-78-4P 704912-07-2P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photoresist contg. specific sulfonium salt prepd. from silyl ether and sulfoxide)

RN 160509-78-4 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

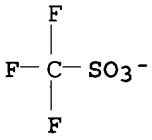
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

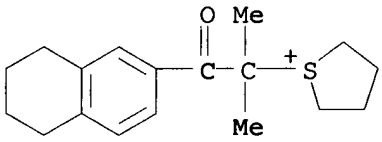
CRN 37181-39-8
CMF C F3 O3 S



RN 704912-07-2 HCAPLUS
CN Thiophenium, 1-[1,1-dimethyl-2-oxo-2-(5,6,7,8-tetrahydro-2-naphthalenyl)ethyl]tetrahydro-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 676502-28-6
CMF C18 H25 O S



CM 2

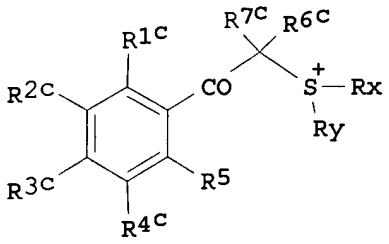
CRN 45187-15-3
CMF C4 F9 O3 S

IC ICM G03F007-004
ICS C07C381-12; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST photoresist sulfonium salt **acid** generator silver content; silyl ether sulfoxide sulfonium salt prepn
IT **160509-78-4P** 171292-12-9P 301153-77-5P 301664-71-1P
301664-72-2P 383367-32-6P 398141-19-0P 398141-62-3P
454471-05-7P 454471-06-8P 454471-13-7P 454471-16-0P
474510-73-1P 474510-76-4P 508210-39-7P 524959-18-0P
610301-26-3P 610301-34-3P 676502-24-2P 677351-28-9P
680200-03-7P 704912-01-6P 704912-05-0P **704912-07-2P**
704912-14-1P 704912-17-4P 704912-18-5P 704912-20-9P
704912-22-1P 704912-25-4P 704912-27-6P 704912-29-8P
704912-32-3P 704912-33-4P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photoresist contg. specific sulfonium salt prepd. from silyl ether and sulfoxide)

L13 ANSWER 20 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:389962 HCAPLUS
DOCUMENT NUMBER: 140:383119
TITLE: Chemically amplified positive resist compositions showing stable post-exposure and -coating delay
INVENTOR(S): Sato, Kenichiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 68 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004138663	A2	20040513	JP 2002-300750	200210 15
PRIORITY APPLN. INFO.:			JP 2002-300750	200210 15

OTHER SOURCE(S): MARPAT 140:383119
GI



I

AB The compns., showing high transparency to far-UV light esp. ArF excimer laser light, comprise (A) resins increasing soly. in **acids** by **acid** action and having unit CH2CR1CO2LZ [R1 = H, Me; L = single bond, alkylene, ether, ester, and/or CO; Z = CO2H, OH, COCH2COR4 (R4 = hydrocarbyl)], CH2CR2ACO2ALG (R2 = H, Me; A = single bond, bridging group; ALG = prescribed alicyclic substituent etc.), and CH2CR3A3Z3(OH)p [R3 = H, Me; A3 = single bond, bivalent bridging group; Z3 = (p + 1)-valent alicyclic hydrocarbyl; p = 1-3], (B) radiation-sensitive **acid** generators I (R1c-R5c = H, alkyl, alkoxy, halo; R6c, R7c = H, alkyl, aryl; Rx, Ry = alkyl, 2-oxoalkyl, alkoxycarbonylmethyl, etc.; X- = sulfonate, carboxylate, sulfonylimide), and (C) solvents.

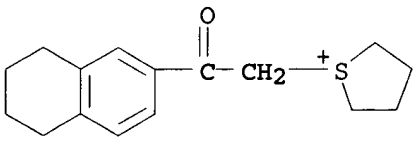
IT **454471-11-5**
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generators; pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)

RN 454471-11-5 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-oxo-2-(5,6,7,8-tetrahydro-2-naphthalenyl)ethyl]-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 454471-10-4
CMF C16 H21 O S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

$^{-}O_3S-(CF_2)_3-CF_3$

IC ICM G03F007-039
ICS C08F220-28; G03F007-004; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST amplified pos photoresist post exposure delay stability; argon fluoride excimer transparency pos resist; phenacylsulfonium **photoacid** generator amplified photoresist process margin
IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**photoacid** cgenerators; pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)
IT 301664-71-1P 301664-72-2P 398141-19-0P
RL: CAT (Catalyst use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**photoacid** generators; pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)
IT 144317-44-2, Triphenylsulfonium nonafluorobutanesulfonate
258872-05-8, Diphenyl(4-tert-butylphenyl)sulfonium nonafluorobutanesulfonate 454471-07-9 **454471-11-5**
470482-89-4 474510-73-1
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generators; pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)

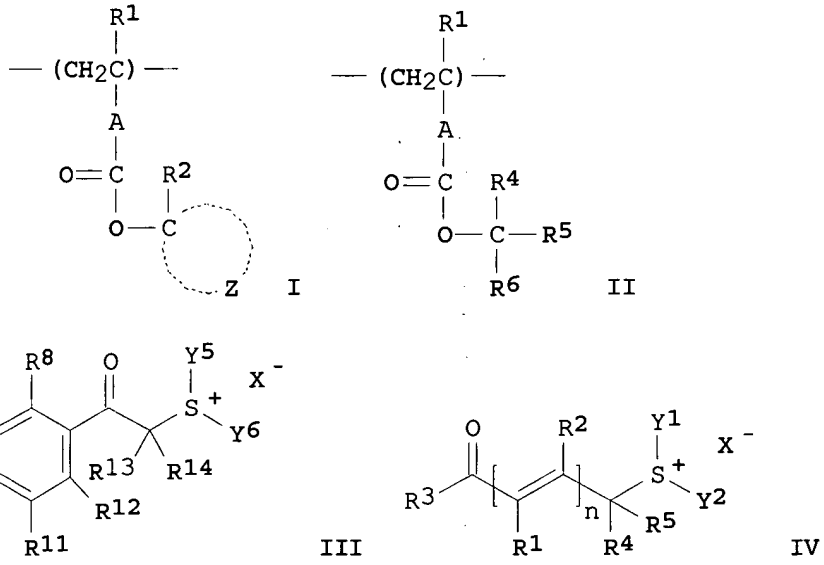
L13 ANSWER 21 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:269885 HCAPLUS
DOCUMENT NUMBER: 140:311995
TITLE: Positive resist composition and pattern formation method
INVENTOR(S): Nishiyama, Fumiyuki; Sato, Kenichiro; Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 56 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004063827	A1	20040401	US 2003-669603	200309 25
JP 2004145298	A2	20040520	JP 2003-315478	200309

PRIORITY APPLN. INFO.: JP 2002-287252 A 20020930

JP 2002-287393 A 20020930

GI



AB A pos. resist compn. comprising: (A) a resin having alicyclic hydrocarbon groups in side chains, contg. repeating units of general formulas I and II (R1 = H, alkyl; A = linkage group, R2 = C1-4-alkyl; Z = group forming an alicyclic hydrocarbon group together with the carbon atom; R4-R6 = hydrocarbon group, alicyclic hydrocarbon) which increases the soly. in an alkali developing soln. by the action of an **acid**; and (B) a particular sulfonium compd. having a general structures of formulas III and IV (R1-R3 = H, alkyl, alkenyl, aryl, alkoxy; R4, R5 = H, cyano, alkyl, aryl, alkoxy; Y1, Y2 = alkyl, aryl, aralkyl, heteroatom-contg. arom. group; n = 1-4; R8-R12 = H, nitro, halogen, alkyl, alkoxy, alkyloxycarbonyl, aryl, acylamino, with the proviso that at least two of R8-R12 may be bonded with each other to form a ring; R13 = H, cyano, alkyl, aryl; R14 = alkyl, aryl; Y5, Y6 = alkyl, aryl, aralkyl, heteroatom-contg. arom. group, Y5 and Y6 may be bonded with each other to form a ring; X- = non-nucleophilic anion) which is capable of generating an **acid** upon irradn. with an actinic ray or radiation. The object of the present invention is to provide a pos. resist compn. that is used suitably in micro-photofabrication

utilizing far UV light, notably ArF excimer laser beam, and offers excellent line edge roughness performance and excellent pattern collapse performance.

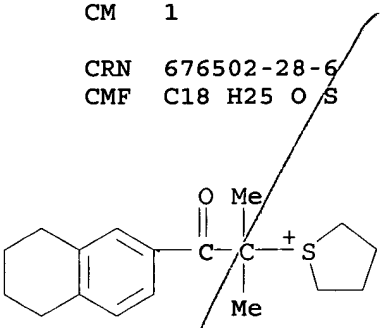
IT **676502-29-7**
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator; pos. resist compn. and pattern formation method)

RN 676502-29-7 HCAPLUS

CN Thiophenium, 1-[1,1-dimethyl-2-oxo-2-(5,6,7,8-tetrahydro-2-naphthalenyl)ethyl]tetrahydro-, salt with 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

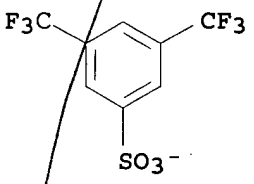
CM 1

CRN 676502-28-6
CMF C18 H25 O S



CM 2

CRN 213740-84-2
CMF C8 H3 F6 O3 S



IC ICM C08K005-41
INCL 524155000
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

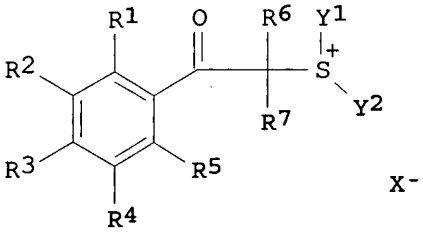
IT 470482-89-4 524959-11-3 524959-16-8 524959-18-0 524959-28-2
610301-07-0 610301-08-1 610301-09-2 610301-13-8 610301-16-1
610301-21-8 610301-28-5 610301-34-3 676502-09-3 676502-10-6
676502-11-7 676502-13-9 676502-14-0 676502-16-2 676502-18-4
676502-20-8 676502-22-0 676502-24-2 676502-25-3 676502-26-4
676502-27-5 **676502-29-7**
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator; pos. resist compn. and pattern formation method)

L13 ANSWER 22 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:200857 HCAPLUS
DOCUMENT NUMBER: 140:243592
TITLE: Negative-working high energy ray-sensitive resist compositions containing specific **acid** generator
INVENTOR(S): Yasunami, Shoichiro; Takahashi, Akira; Mizutani, Kazuyoshi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 57 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004077811	A2	20040311	JP 2002-238158	20020819

PRIORITY APPLN. INFO.: JP 2002-238158 20020819

OTHER SOURCE(S): MARPAT 140:243592
GI



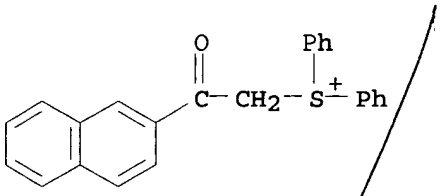
I

AB The title compn. contains alkali-solubilizable resins, an actinic ray- or radiation-sensitive **acid**-sensitive crosslinking agent, and an **acid**-generating compd., wherein the **acid**-generating compd. has structure I(R1-5 = H, nitro, halo, alkyl, etc.; R6-7 = H; Y1-2 = alkyl, alkenyl, aryl; X- = non-nucleophilic anion). The compn. shows high sensitivity and provides pattern of high resoln. and good profile.
IT **669008-53-1P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**acid** generator in neg.-working photoresist compns.)

RN 669008-53-1 HCAPLUS
CN Sulfonium, [2-(2-naphthalenyl)-2-oxoethyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 122343-38-8
CMF C24 H19 O S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

IC ICM G03F007-004
ICS G03F007-038; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST neg resist compn **acid** generator
IT Negative photoresists
(neg.-working high energy ray-sensitive resist compns. contg. specific **acid** generator)
IT 100-68-5, Methyl phenyl sulfide 585-71-7, α-Phenethyl bromide 2926-27-4, Potassium trifluoromethanesulfonate 14104-20-2, Silver borofluoride
RL: RCT (Reactant); RACT (Reactant or reagent)
(**acid** generator in neg.-working photoresist compns.)
IT 666256-50-4P 666256-52-6P 666256-58-2P 666256-59-3P
666256-60-6P 666256-69-5P 669008-48-4P 669008-49-5P
669008-51-9P 669008-52-0P **669008-53-1P** 669008-54-2P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**acid** generator in neg.-working photoresist compns.)

L13 ANSWER 23 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:1007692 HCAPLUS
DOCUMENT NUMBER: 140:50319
TITLE: **Photoacid** generating compounds, chemically amplified positive resist materials, and pattern forming method
INVENTOR(S): Hatakeyama, Jun; Kobayashi, Tomohiro; Ohsawa,

	Youichi
PATENT ASSIGNEE(S):	Japan
SOURCE:	U.S. Pat. Appl. Publ., 47 pp., Cont.-in-part of U.S. Pat. Appl. 2003 207,201. CODEN: USXXCO
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	2
PATENT INFORMATION:	

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003235779	A1	20031225	US 2003-375773	20030227
US 2003207201	A1	20031106	US 2002-331785	20021227

PRIORITY APPLN. INFO.:	JP 2001-397192	A	20011227
	US 2002-331785	A2	20021227

OTHER SOURCE(S): MARPAT 140:50319

AB The invention provides a high-resoln. resist material comprising an **acid** generator that has high sensitivity and high resoln. with respect to high-energy rays of 300 nm or less, has small line-edge roughness, and is superior in heat stability and in shelf stability, and provides a pattern forming method that uses this resist material. The invention further provides a chem. amplified pos. resist material comprising a base resin, an **acid** generator and a solvent in which the **acid** generator generates an alkylimidic **acid** contg. a fluorine group, and provides a pattern forming method comprising a step of applying the resist material to the substrate, a step of performing exposure to a high-energy ray of a wavelength of 300 nm or less through a photomask following heat treatment, and a step of performing development by a developing soln. following heat treatment.

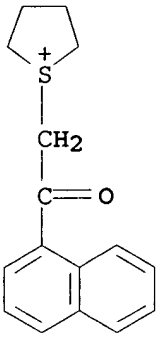
IT **601520-42-7 601520-51-8**
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generating compds. for chem. amplified pos. resist materials)

RN 601520-42-7 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(1-naphthalenyl)-2-oxoethyl]-, salt with 1,1,2,2,2-pentafluoro-N-[(pentafluoroethyl)sulfonyl]ethanesulfonamide (1:1) (9CI) (CA INDEX NAME)

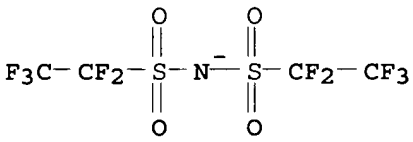
CM 1

CRN 601520-41-6
CMF C16 H17 O S



CM 2

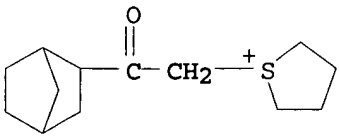
CRN 129318-46-3
CMF C4 F10 N O4 S2



RN 601520-51-8 HCAPLUS
CN Thiophenium, 1-(2-bicyclo[2.2.1]hept-2-yl-2-oxoethyl)tetrahydro-, salt with 1,1,2,2,2-pentafluoro-N-[(pentafluoroethyl)sulfonyl]ethane sulfonamide (1:1) (9CI) (CA INDEX NAME)

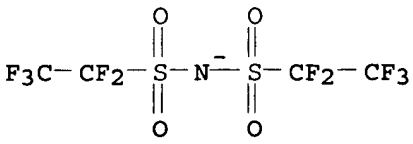
CM 1

CRN 601520-50-7
CMF C13 H21 O S



CM 2

CRN 129318-46-3
CMF C4 F10 N O4 S2



IC ICM G03C001-492
INCL 430270100
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST **photoacid** generating compd chem amplified pos photoresist material pattern
IT Positive photoresists
(**photoacid** generating compds., chem. amplified pos. resist materials, and pattern forming method)
IT 601520-40-5P 635715-30-9P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**photoacid** generating compds. for chem. amplified pos. resist materials)
IT 460731-17-3 460731-18-4 541547-03-9 601520-33-6 601520-34-7 601520-36-9 601520-37-0 601520-39-2 **601520-42-7** 601520-43-8 601520-45-0 601520-47-2 601520-49-4 **601520-51-8**
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generating compds. for chem. amplified pos. resist materials)
IT 70-11-1, 2-Bromoacetophenone
RL: RCT (Reactant); RACT (Reactant or reagent)
(**photoacid** generating compds., chem. amplified pos. resist materials, and pattern forming method)
IT 19158-66-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(**photoacid** generating compds., chem. amplified pos. resist materials, and pattern forming method)
IT 110-01-0, Tetrahydrothiophene 129318-46-3, Bis(perfluoroethylsulfonyl)imide 191101-38-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of **photoacid** generating compds. for chem. amplified pos. resist materials)

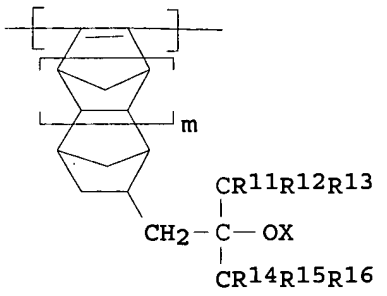
L13 ANSWER 24 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:853325 HCAPLUS
DOCUMENT NUMBER: 139:356048
TITLE: Positive-working photoresist composition
INVENTOR(S): Kanna, Shinichi; Mizutani, Kazuyoshi; Sasaki, Tomoya
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

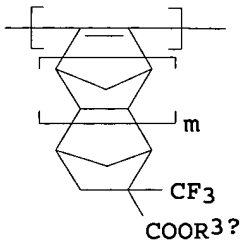
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003307850	A2	20031031	JP 2002-112257	200204 15

PRIORITY APPLN. INFO.: JP 2002-112257 200204 15

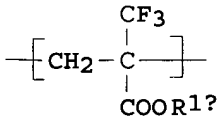
OTHER SOURCE(S): MARPAT 139:356048
GI



I



II



III

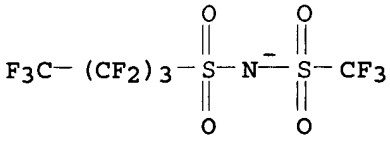
AB The title compn. contains a **photoacid** generator, a resin increasing the soly. in an alkali developer by an **acid**, and a solvent, wherein the **acid** generator has general structure (R1)(R2)(R3)S+ X- or R4-I+-R5 X- (R1-5 = aliph. hydrocarbon, arom. hydrocarbon; X = anion) and wherein the resin contains at least one of repeating unit chosen from I, II,(m = 0,1; X = H, **acid**-sensitive group; R11-16 = H, F, fluoroalkyl; R3a = H, **acid**-sensitive group), [-CH2-C(CF3)(CO2R14)-] (R4a = H, **acid**-sensitive group), etc. The compn. is suitable for exposure of ≤160 nm light and provides photoresist of good line-edge roughness and little residual layer after the development.

IT **460731-29-7**
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid** generator in compn.)

RN 460731-29-7 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-N-[(trifluoromethyl)sulfonyl]-1-butanesulfonamide (1:1) (9CI) (CA INDEX NAME)

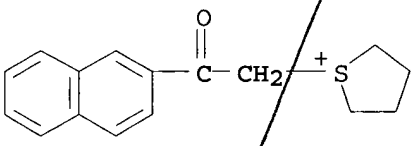
CM 1

CRN 230627-60-8
CMF C5 F12 N O4 S2



CM 2

CRN 71967-57-2
CMF C16 H17 O S



IC ICM G03F007-039
ICS C08F012-14; C08F016-22; C08F020-22; C08F020-26; C08F032-04; G03F007-004; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 393110-05-9 460731-17-3 460731-18-4 460731-19-5 460731-20-8
460731-21-9 460731-23-1 460731-25-3 460731-26-4 460731-27-5
460731-28-6 **460731-29-7** 460731-32-2 476315-57-8
476315-59-0 476315-60-3 476315-64-7 476315-65-8 476315-66-9
476315-67-0 618097-09-9 618097-11-3 618097-12-4
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid** generator in compn.)

L13 ANSWER 25 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:817583 HCAPLUS
DOCUMENT NUMBER: 139:314532
TITLE: Radiation sensitive composition and compound
INVENTOR(S): Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 99 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

EP 1353225	A2	20031015	EP 2003-7989	200304 10
EP 1353225	A3	20031112		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2003224288	A1	20031204	US 2003-409100	200304 09
JP 2004139014	A2	20040513	JP 2003-106524	200304 10
PRIORITY APPLN. INFO.:			JP 2002-108104 A	200204 10
			JP 2002-240661 A	200208 21

AB The present invention relates to a stimulation sensitive compn. used for a semiconductor prodn. process such as IC, a liq. crystal, the prodn. of a circuit substrate such as a thermal head, further, other photo application system, lithog. printing, an **acid** curing compn., a radical curing compn. and the like. The present invention relates to a stimulation sensitive compn. comprising: (A) a compd. represented by: ArC(=O)CR6R7S+Y1Y2 X- (Ar = aryl or arom. group contg. a hetero atom; R6 = H, cyano, alkyl, aryl group; R7 = monovalent org. group; Y1,2 = alkyl, aryl, aralkyl, etc.; X- = non-nucleophilic anion) which is capable of generating an **acid** or a radical by stimulation from the external. (B) a resin.

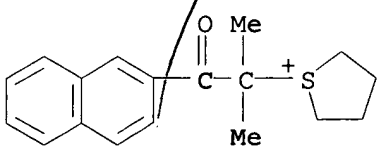
IT **610301-40-1**
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid** generating agent; radiation sensitive resist compn. for semiconductor prodn. process contg.)

RN 610301-40-1 HCAPLUS

CN Thiophenium, 1-[1,1-dimethyl-2-(2-naphthalenyl)-2-oxoethyl]tetrahydro-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 610301-39-8
CMF C18 H21 O S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

$^{-}O_3S-(CF_2)_3-CF_3$

IC ICM G03F007-004
ICS G03F007-039; G03F007-038; C07C323-22
CC 74-6 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38
IT 470482-89-4P 610301-07-0P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**acid** generating agent; radiation sensitive resist compn. for semiconductor prodn. process contg.)
IT 66003-78-9 133710-62-0 138529-81-4 144317-44-2 193345-23-2
197447-16-8 220475-58-1 227199-92-0 241806-75-7 258341-98-9
258872-05-8 284474-28-8 301153-77-5 301664-71-1 301664-72-2
347193-28-6 389859-76-1 391232-40-9 398141-17-8 398141-18-9
398141-19-0 474510-76-4 592544-87-1 610301-08-1 610301-09-2
610301-10-5 610301-12-7 610301-13-8 610301-14-9 610301-16-1
610301-18-3 610301-19-4 610301-21-8 610301-23-0 610301-25-2
610301-26-3 610301-28-5 610301-30-9 610301-32-1 610301-34-3
610301-36-5 610301-38-7 **610301-40-1** 610301-42-3
610301-44-5 610301-46-7 610301-47-8 610301-48-9
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid** generating agent; radiation sensitive resist compn. for semiconductor prodn. process contg.)

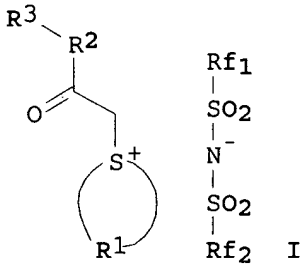
L13 ANSWER 26 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:734749 HCAPLUS
DOCUMENT NUMBER: 139:267981
TITLE: Photosensitive **acid**-generating agent, chemically amplified positively-working photoresist material, and patterning method
INVENTOR(S): Hatakeyama, Jun; Kobayashi, Tomohiro; Osawa, Yoichi
PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 49 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003261529	A2	20030919	JP 2002-369145	20021220

PRIORITY APPLN. INFO.: JP 2001-397192 A 200112 27

OTHER SOURCE(S): MARPAT 139:267981

GI



I

AB The **acid**-generating agent is a sulfonium salt represented as I [R1 = C2-8 alkylene; R2 = direct bond, O, N, C1-4 alkylene; R3 = (substituted) linear, branched, or cyclic alkyl, aryl; Rf1 and/or Rf2 = F-contg. C1-20 linear, branched, or cyclic alkyl which may involve OH, carbonyl, ester, ether or aryl; Rf1 and Rf2 may form rings]. The chem. amplified pos. working photoresist contains, a base resin, a solvent, and an agent releasing an alkylimidic **acid**, preferably I or R4nM+ Rf1SO2NSO2Rf2- [R4 = linear, branched, or cyclic alkyl (involving carbonyl, ester, ether, thioether, or double bond), aryl, aralkyl; M = iodonium, sulfonium; n = 2, 3]. The photoresist material is applied on a substrate, heated, exposed to high-energy radiation with wavelength ≤300 nm through a photomask, heated, and developed to form a pattern. The pattern with high resoln., small line edge roughness, and heat and storage stability is obtained by the method.

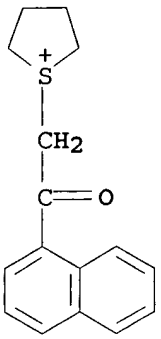
IT **601520-42-7 601520-51-8**
RL: CAT (Catalyst use); USES (Uses)
(photosensitive fluoroalkylimidic **acid**-generating agent for chem. amplified pos.-working photoresist material)

RN 601520-42-7 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(1-naphthalenyl)-2-oxoethyl]-, salt with 1,1,2,2,2-pentafluoro-N-[(pentafluoroethyl)sulfonyl]ethanesulfonamide (1:1) (9CI) (CA INDEX NAME)

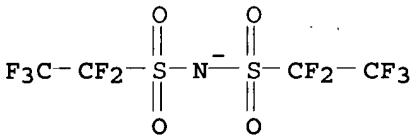
CM 1

CRN 601520-41-6
CMF C16 H17 O S



CM 2

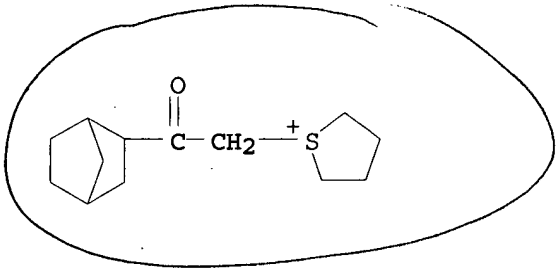
CRN 129318-46-3
CMF C4 F10 N O4 S2



RN 601520-51-8 HCAPLUS
CN Thiophenium, 1-(2-bicyclo[2.2.1]hept-2-yl-2-oxoethyl)tetrahydro-, salt with 1,1,2,2,2-pentafluoro-N-[(pentafluoroethyl)sulfonyl]ethane sulfonamide (1:1) (9CI) (CA INDEX NAME)

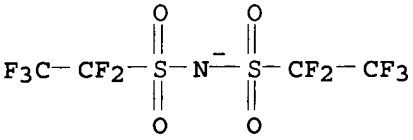
CM 1

CRN 601520-50-7
CMF C13 H21 O S



CM 2

CRN 129318-46-3
CMF C4 F10 N O4 S2



IC ICM C07C311-48
ICS C07D333-46; C07D335-02; G03F007-004; G03F007-039; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 23, 38
ST chem amplified pos working photoresist; photosensitive **acid** generating agent photoresist; fluoroalkylimidic **acid** generating sulfonium compd photoresist
IT Photoresists
(photosensitive fluoroalkylimidic **acid**-generating agent for chem. amplified pos.-working photoresist material)
IT Polyalkenamers
RL: TEM (Technical or engineered material use); USES (Uses)
(photosensitive fluoroalkylimidic **acid**-generating agent for chem. amplified pos.-working photoresist material)
IT 81-25-4 828-51-3 122752-67-4 308141-03-9 359635-45-3 601520-70-1
RL: MOA (Modifier or additive use); USES (Uses)
(dissoln. inhibitor; photosensitive fluoroalkylimidic **acid**-generating agent for chem. amplified pos.-working photoresist material contg.)
IT 70-11-1, 2-Bromoacetophenone 110-01-0, Tetrahydrothiophene 129318-46-3, Bis(perfluoroethylsulfonyl)imide
RL: RCT (Reactant); RACT (Reactant or reagent)
(for prepn. of photosensitive **acid**-generating agent for chem. amplified pos.-working photoresist material)
IT 39847-39-7P 601520-67-6P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; for prepn. of photosensitive **acid** -generating agent for chem. amplified pos.-working photoresist material)
IT 460731-17-3 460731-18-4 541547-03-9 601520-33-6 601520-34-7 601520-36-9 601520-37-0 601520-39-2 **601520-42-7** 601520-43-8 601520-45-0 601520-47-2 601520-49-4 **601520-51-8**
RL: CAT (Catalyst use); USES (Uses)
(photosensitive fluoroalkylimidic **acid**-generating agent for chem. amplified pos.-working photoresist material)
IT 601520-40-5P 601520-69-8P
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(photosensitive fluoroalkylimidic **acid**-generating agent for chem. amplified pos.-working photoresist material)
IT 155040-27-0 158593-28-3 177034-75-2 200808-68-0 279244-15-4 279244-59-6 290808-54-7 301153-46-8 326925-68-2 417702-19-3 485391-28-4 601520-52-9 601520-53-0 601520-54-1 601520-55-2 601520-56-3 601520-57-4 601520-58-5 601520-59-6 601520-60-9

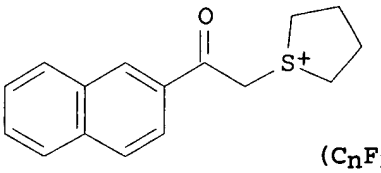
601520-61-0 601520-62-1 601520-64-3 601520-65-4 601520-66-5
RL: TEM (Technical or engineered material use); USES (Uses)
(photosensitive fluoroalkylimidic **acid**-generating agent
for chem. amplified pos.-working photoresist material)

IT 102-71-6, Triethanolamine, uses 102-82-9, Tributylamine
3002-18-4 211919-60-7, Trismethoxy(methoxyethyl)amine
218770-96-8, Trismethoxy(ethoxymethoxy)ethylamine 449165-34-8
RL: MOA (Modifier or additive use); USES (Uses)
(photosensitive fluoroalkylimidic **acid**-generating agent
for chem. amplified pos.-working photoresist material contg.)

L13 ANSWER 27 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:686028 HCAPLUS
DOCUMENT NUMBER: 139:214326
TITLE: Preparation of 2-naphthoylmethyltetramethylenesulfonium salts and their use as **photoacid** generators
INVENTOR(S): Miyashige, Ryozo; Tanaka, Yuji; Fukunaga, Toshihiro
PATENT ASSIGNEE(S): Toyo Kasei Kogyo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003246786	A2	20030902	JP 2002-361804	200212 13
PRIORITY APPLN. INFO.:			JP 2001-384291 A	200112 18

OTHER SOURCE(S): MARPAT 139:214326
GI



$(C_nF_{2n+1}SO_2)_2N^-$ I

AB The title compds. I (n = 1-5) are prepd. by salt exchange of 2-naphthoylmethyltetramethylenesulfonium bromide (II) with (CnF2n+1SO2)N- NH4+ (III; n = 1-5). A mixt. of II, CH2Cl2, and III (n = 2) (IV) was stirred at room temp. for 3 h and sepd. After removal of the aq. phase, the org. phase was treated with IV and H2O

under stirring for 3 h to give 95% I (n = 2). Generation of bis(pentafluoroethylsulfonyl)imide from the salt upon irradn. with 254 nm light was shown.

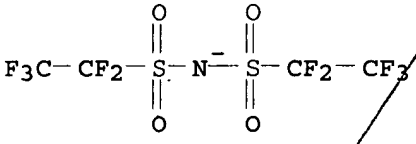
IT **590423-17-9P**
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(prepn. of naphthoylmethyltetramethylenesulfonium bis(perfluoroalkanesulfonyl)imides as **photoacid** generators)

RN 590423-17-9 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with 1,1,2,2,2-pentafluoro-N-[(pentafluoroethyl)sulfonyl]ethanesulfonamide (1:1) (9CI) (CA INDEX NAME)

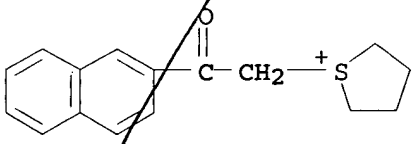
CM 1

CRN 129318-46-3
CMF C4 F10 N O4 S2



CM 2

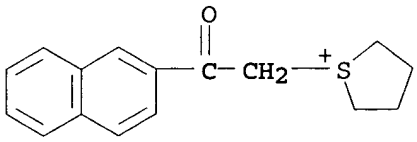
CRN 71967-57-2
CMF C16 H17 O S



IT **360554-36-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of naphthoylmethyltetramethylenesulfonium bis(perfluoroalkanesulfonyl)imides as **photoacid** generators)

RN 360554-36-5 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, bromide (9CI) (CA INDEX NAME)



● Br^-

IC ICM C07D333-46
ICS C07C311-48; G03F007-004
CC 27-8 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): **74**
ST naphthoylmethyltetramethylenesulfonium bisperfluoroalkanesulfonylimide prepn **photoacid** generator
IT Photoresists
(prepn. of naphthoylmethyltetramethylenesulfonium bis(perfluoroalkanesulfonyl)imides as **photoacid** generators)
IT **590423-17-9P**
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(prepn. of naphthoylmethyltetramethylenesulfonium bis(perfluoroalkanesulfonyl)imides as **photoacid** generators)
IT 152894-10-5 **360554-36-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of naphthoylmethyltetramethylenesulfonium bis(perfluoroalkanesulfonyl)imides as **photoacid** generators)

L13 ANSWER 28 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:686018 HCAPLUS
DOCUMENT NUMBER: 139:214325
TITLE: Preparation of sulfonium salt as a **photoacid** generator
INVENTOR(S): Miyashige, Ryozo; Tanaka, Hiroaki; Shimaguchi, Toru
PATENT ASSIGNEE(S): Toyo Kasei Kogyo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003246774	A2	20030902	JP 2002-361803	200212 13

PRIORITY APPLN. INFO.: JP 2001-384290 A 200112 18

AB 2-Naphthoylmethyltetramethylenesulfonium camphorsulfonate (I), useful as a **photoacid** generator for photoimaging, photocuring, etc., is prepd. by salt exchange of 2-naphthoylmethyltetramethylenesulfonium bromide (II) with ammonium camphorsulfonate (III). II was treated with III in H2O-CH2Cl2 at room temp. for 3 h to give 69.6% I, which showed **acid** generation (Φ) 0.01.

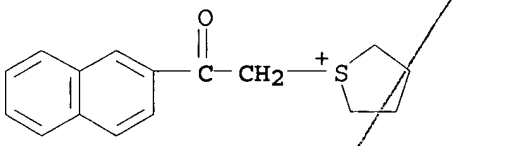
IT **587869-96-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of sulfonium salt as **photoacid** generator)

RN 587869-96-3 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with (1S,4R)-7,7-dimethyl-2-oxobicyclo[2.2.1]heptane-1-methanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

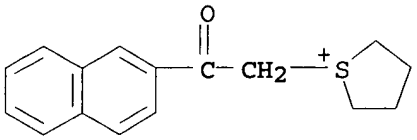
CRN 46362-90-7
CMF C10 H15 O4 S

Absolute stereochemistry.

IT **360554-36-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of sulfonium salt as **photoacid** generator)

RN 360554-36-5 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, bromide (9CI) (CA INDEX NAME)



● Br^-

IC ICM C07C309-25
ICS C07D333-46
CC 27-8 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 35, 37, **74**
ST sulfonium camphorsulfonate prepn **photoacid** generator
IT Crosslinking catalysts
(photochem.; prepn. of sulfonium salt as **photoacid** generator)
IT Polymerization catalysts
(photopolymn.; prepn. of sulfonium salt as **photoacid** generator)
IT Photoimaging materials
(prepn. of sulfonium salt as **photoacid** generator)
IT **587869-96-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of sulfonium salt as **photoacid** generator)
IT 14888-09-6, Ammonium camphorsulfonate **360554-36-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of sulfonium salt as **photoacid** generator)

L13 ANSWER 29 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:414270 HCAPLUS
DOCUMENT NUMBER: 138:409382
TITLE: Resist composition and method for manufacturing a semiconductor device using the resist composition
INVENTOR(S): Kon, Junichi; Yano, Ei
PATENT ASSIGNEE(S): Fujitsu Limited, Japan
SOURCE: Eur. Pat. Appl., 38 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1315044	A1	20030528	EP 2002-7431	

200203
28
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
JP 2003162060 A2 20030606 JP 2001-361506
200111
27
US 2003098464 A1 20030529 US 2002-107203
200203
28
PRIORITY APPLN. INFO.: JP 2001-361506 A
200111
27

OTHER SOURCE(S): MARPAT 138:409382

AB Title resist material contains a first photo-**acid** generator having an absorption peak to exposure light having a wavelength of <300 nm, and a second photo-**acid** generator having an absorption peak to exposure light having a wavelength of ≥300 nm. A method for forming a resist pattern comprises a step for selectively exposing which exposes a coating film of the resist material to an exposure light having a wavelength of <300 nm, and a step for selectively exposing to light having a wavelength of ≥300 nm. A semiconductor device comprises a pattern formed by the resist pattern. The method for forming a semiconductor device comprises a step for forming a resist pattern on an underlying layer by the aforementioned manufg. method, and a step for patterning the underlying layer by etching using the resist pattern as a mask.

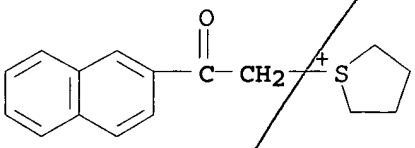
IT **530134-80-6**
RL: MOA (Modifier or additive use); USES (Uses)
(resist compn. for manuf. of high-electron-mobility transistors)

RN 530134-80-6 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

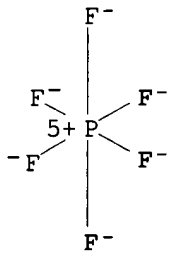
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 16919-18-9
CMF F6 P
CCI CCS

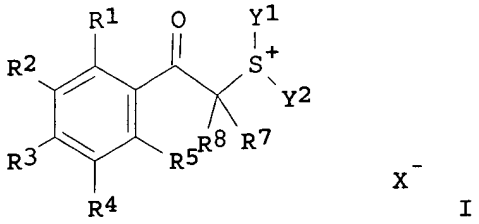


IC ICM G03F007-004
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
ST photoresist manuf semiconductor device; **acid** generator photoresist
IT 879-15-2 3584-23-4 24481-46-7 42880-03-5 66003-76-7 66003-78-9, Triphenylsulfonium triflate 71255-78-2 75482-18-7 83697-53-4 195057-83-1 530134-79-3 **530134-80-6**
RL: MOA (Modifier or additive use); USES (Uses)
(resist compn. for manuf. of high-electron-mobility transistors)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 30 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:152363 HCAPLUS
DOCUMENT NUMBER: 138:212783
TITLE: Positive-working photoresist composition containing specific **acid** generator
INVENTOR(S): Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 67 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003057816	A2	20030228	JP 2001-250452	200108 21
PRIORITY APPLN. INFO.:			JP 2001-250452	200108 21

OTHER SOURCE(S): MARPAT 138:212783
GI



I

AB The compn. contains a radiation- or light-sensitive **acid** generator, a resin which increases the soly. in an alkali soln. by an **acid** and has mono- or poly-cyclic hydrocarbon structure, wherein the **acid** generator has structure I(R1-5 = H, nitro, halo, alkyl, etc.; R6-7 = H, cyano, alkyl, aryl; Y1-2 = alkyl, aryl, aralkyl, etc.; X- = non-nucleophilic anion). The compn. shows the good storageability and the high sensitivity toward light of ≤ 250 nm and provides the resist of the improved pattern profile.

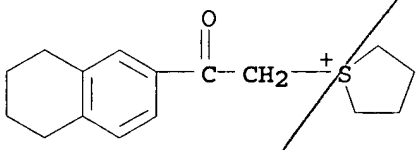
IT **500149-49-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(**acid** generator; pos.-working photoresist compn.)

RN 500149-49-5 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-oxo-2-(5,6,7,8-tetrahydro-2-naphthalenyl)ethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

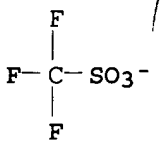
CM 1

CRN 454471-10-4
CMF C16 H21 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



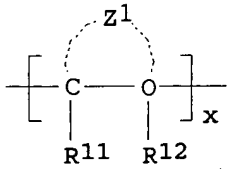
IC ICM G03F007-004
ICS G03F007-004; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35
ST pos photoresist compn **acid** generator
IT 110-01-0, Tetrahydrothiophene 827-52-1, Cyclohexylbenzene 22118-09-8, Bromoacetyl chloride 29420-49-3, Potassium nonafluorobutanesulfonate 398141-23-6 500149-36-0 500149-39-3 500149-42-8 500149-44-0 500149-46-2 500149-48-4 **500149-49-5** 500149-50-8 500149-52-0 500149-54-2 500149-55-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(**acid** generator; pos.-working photoresist compn.)
IT 99433-28-0P, Acetophenone, 2-bromo-4'-cyclohexyl-
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**acid** generator; pos.-working photoresist compn.)

L13 ANSWER 31 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:904532 HCAPLUS
DOCUMENT NUMBER: 137:391087
TITLE: Positive-working photoresist compositions containing specific resin and specific **acid**-generator
INVENTOR(S): Sato, Kenichiro; Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 105 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

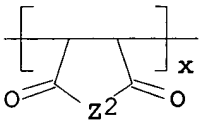
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002341539	A2	20021127	JP 2001-149620	200105 18
US 2003008241	A1	20030109	US 2002-93411	200203 11
US 6777160	B2	20040817		
TW 538317	B	20030621	TW 2002-91104604	200203 12
PRIORITY APPLN. INFO.:			JP 2001-68849 A	200103 12
			JP 2001-68850 A	200103 12
			JP 2001-149620 A	

200105
18

GI



I



II

AB The title compn. contains a resin increasing the soly. towards an alkali developer by reacting with an **acid** and actinic ray- or radiation-sensitive **acid**-generator, wherein the resin has repeating unit I(R11'-12' = H, cyano, halo, alkyl; Z' = alicyclic residue), repeating unit II (Z2 = -O-, -N(R41)-; R41 = H, OH, alkyl, etc.), and [CH2-C(R91)(-CO-X-Q-R92)] (R91= H, lower alkyl, halo, CN; X5 = -O-, -S-, -NR93-, -NR93SO2-; R93 = H, alkyl; Q = single bond, connecting group) and wherein the **acid** -generator has structure (R1)(R2)(R3)S+ X- or R4-I+-R5 X- (R1-5 = aliph. hydrocarbon, arom. hydrocarbon; X- = R6-SO2-N--SO2=R7, R8-SO2-C-(SO2-R10)-SO2-R9; R6-10 = aliph. hydrocarbon). The compn. provides the photoresist of the high resoln. and the wide margin for the exposure conditions for.

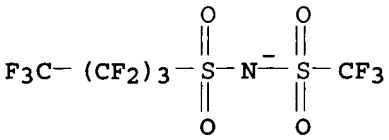
IT **460731-29-7**
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid**-generator; pos.-working photoresist compns.)

RN 460731-29-7 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-N-[(trifluoromethyl)sulfonyl]-1-butanesulfonamide (1:1) (9CI) (CA INDEX NAME)

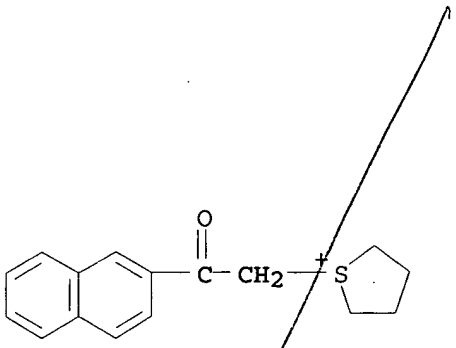
CM 1

CRN 230627-60-8
CMF C5 F12 N O4 S2



CM 2

CRN 71967-57-2
CMF C16 H17 O S



IC ICM G03F007-039
ICS C08F220-10; C08F232-00; C08F234-00; C08K005-16; C08K005-34; C08K005-36; C08L033-04; C08L045-00; G03F007-004; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 393110-05-9 460731-17-3 460731-18-4 460731-19-5 460731-20-8 460731-21-9 460731-23-1 460731-25-3 460731-26-4 460731-28-6 **460731-29-7** 476315-55-6 476315-57-8 476315-59-0 476315-60-3 476315-62-5 476315-64-7 476315-65-8 476315-66-9 476315-67-0 476315-68-1 476315-69-2 476315-71-6
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid**-generator; pos.-working photoresist compns.)
IT 71-43-2, Benzene, reactions 945-51-7, Diphenylsulfoxide 2049-95-8, tert-Amylbenzene 7664-93-9, Sulfuric **acid**, reactions 7758-05-6, Potassium iodate 12027-06-4, Ammonium iodide 325146-84-7, Iodonium,bis[(1,1-dimethylpropyl)phenyl]-
RL: RCT (Reactant); RACT (Reactant or reagent)
(pos.-working photoresist compns.)

L13 ANSWER 32 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:848227 HCAPLUS
DOCUMENT NUMBER: 137:360309
TITLE: Radiation-sensitive positive resist compositions showing wide defocus latitude and less particle generation on storage
INVENTOR(S): Kodama, Kunihiko; Sato, Kenichiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 90 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002323767	A2	20021108	JP 2001-157366	200105 25
US 2003017415	A1	20030123	US 2002-79414	200202 22
US 6858370	B2	20050222		
TW 548523	B	20030821	TW 2002-91103178	200202 22

PRIORITY APPLN. INFO.: JP 2001-48602 A 200102

			23
	JP 2001-48783	A	200102 23
	JP 2001-48784	A	200102 23
	JP 2001-48880	A	200102 23
	JP 2001-157366	A	200105 25
	JP 2001-157367	A	200105 25

AB The compns., esp. suited for deep-UV lithog., comprise **acid** generators contg. triarylsulfonium salts and phenathylsulfonium salts, alicyclic hydrocarbon resins increasing alkali soly. upon reaction with **acids**, bases, and fluoro and/or silicone surfactants,. The compns. may contain OH-bearing and -free solvent mixts.

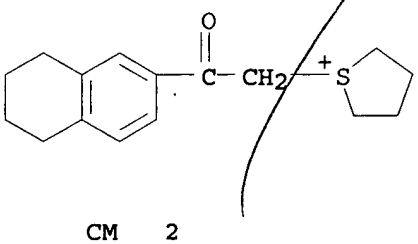
IT **454471-11-5**
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generators; radiation-sensitive pos. resist compns. showing wide defocus latitude and less particle generation on storage)

RN 454471-11-5 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-oxo-2-(5,6,7,8-tetrahydro-2-naphthalenyl)ethyl]-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 454471-10-4
CMF C16 H21 O S



CM 2

CRN 45187-15-3

CMF C4 F9 O3 S

$^{-}O_3S-(CF_2)_3-CF_3$

IC ICM G03F007-039
ICS C08K005-00; C08K005-36; C08L101-00; G03F007-004; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76
IT 66003-78-9 144317-44-2 177034-80-9 241806-75-7 258872-05-8
284474-28-8 301664-71-1 338445-24-2 398141-18-9 398141-19-0
398141-23-6 414911-37-8 421555-71-7 421555-72-8 454471-07-9
454471-11-5 454471-15-9 454471-16-0 474510-73-1
474510-75-3 474510-76-4
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generators; radiation-sensitive pos. resist compns. showing wide defocus latitude and less particle generation on storage)

L13 ANSWER 33 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:848220 HCAPLUS
DOCUMENT NUMBER: 137:360306
TITLE: Radiation-sensitive positively working photosensitive composition
INVENTOR(S): Kodama, Kunihiko; Sato, Kenichiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 92 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002323758	A2	20021108	JP 2001-157367	200105 25
US 2003017415	A1	20030123	US 2002-79414	200202 22
US 6858370	B2	20050222		
PRIORITY APPLN. INFO.:			JP 2001-48783 A	200102 23
			JP 2001-48602 A	200102 23
			JP 2001-48784 A	200102

			23
	JP 2001-48880	A	200102 23
	JP 2001-157366	A	200105 25
	JP 2001-157367	A	200105 25

AB The compn. comprises (A) **acid** generator sensitive to actinic ray or radiation, (B) (poly)alicyclic hydrocarbon polymer which becomes alkali sol. by **acid** decompn., (C) basic compd., and (D) fluoro and/or silicone surfactant, where the **acid** generator contains ≥1 compd. having a phenacyl sulfonium salt structure and ≥1 nonarom. sulfonium salt. The compn. provides a photoresist having high resoln. and wide defocus latitude by exposure with a ring-shaped light source and a photoresist having good pattern profile by exposure with a half-tone phase-shift mask. Generation of particles under storage of the compn. is suppressed.

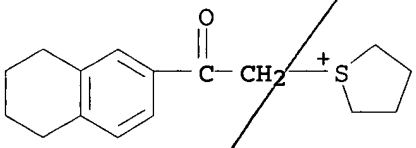
IT **454471-11-5**
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid** generator; radiation-sensitive pos. working photosensitive compn. for high resoln. and storage stability)

RN 454471-11-5 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-oxo-2-(5,6,7,8-tetrahydro-2-naphthalenyl)ethyl]-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

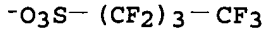
CM 1

CRN 454471-10-4
CMF C16 H21 O S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S



IC ICM G03F007-004
ICS G03F007-004; G03F007-039; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST radiation sensitive pos photosensitive compn resoln storage stability; phenacyl sulfonium salt **acid** generator pos photosensitive compn; photoresist phenacyl sulfonium salt **acid** generator
IT 301664-71-1P 301664-72-2P 347193-29-7P 398141-19-0P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**acid** generator; radiation-sensitive pos. working photosensitive compn. for high resoln. and storage stability)
IT 160481-39-0 171292-12-9 299416-57-2 301153-78-6 340986-46-1
347193-28-6 371921-65-2 383367-32-6 398141-21-4 414911-37-8
414911-52-7 454471-07-9 **454471-11-5** 454471-15-9
454471-16-0 454471-23-9 455521-76-3 455521-85-4 455521-89-8
474276-93-2 474510-72-0 474510-73-1 474510-75-3 474510-76-4
474510-79-7 474510-82-2 474510-86-6 474510-92-4 474510-98-0
474511-05-2 474511-06-3 474511-08-5 477328-06-6
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid** generator; radiation-sensitive pos. working photosensitive compn. for high resoln. and storage stability)
IT 70-11-1, Phenacyl bromide 110-01-0, Tetrahydrothiophene 1493-13-6, Trifluoromethanesulfonic **acid** 1763-23-1, Perfluorooctanesulfonic **acid** 5469-26-1, 1-Bromo-3,3-dimethyl-2-butanone 29420-49-3, Potassium perfluorobutanesulfonate
RL: RCT (Reactant); RACT (Reactant or reagent)
(radiation-sensitive pos. working photosensitive compn. for high resoln. and storage stability)

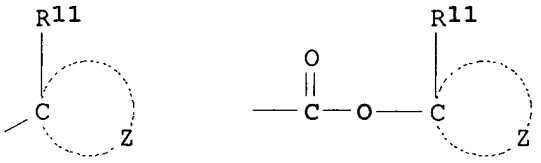
L13 ANSWER 34 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:707557 HCAPLUS
DOCUMENT NUMBER: 137:255328
TITLE: Positive-working photoresist composition containing specific **acid**-sensitive resins and specific **acid** generators
INVENTOR(S): Sato, Kenichiro; Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 55 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002268223	A2	20020918	JP 2001-68850	200103 12
US 2003008241	A1	20030109	US 2002-93411	

					200203 11
US 6777160	B2	20040817			
TW 538317	B	20030621	TW 2002-91104604		
					200203 12
PRIORITY APPLN. INFO.:			JP 2001-68849	A	
					200103 12
			JP 2001-68850	A	
					200103 12
			JP 2001-149620	A	
					200105 18

OTHER SOURCE(S): MARPAT 137:255328

GI



I II

AB The title compn. contains resins, which has an aliph. cyclic hydrocarbon on the side chain and increases dissoln. speed in an alkali developer by reacting with an **acid**, and a radiation- or actinic ray-sensitive **acid** generator, wherein the resin contains a repeating unit having ≥1 groups chosen from I, -C(R12)(R13)(R14), -CH(OR15)(R16), -C(R19)(R21)-C(R17)=C(R18)(R20), -C(R22)(R25)-CH(R23)-C(=O)-R24, and II (R11 = Me, Et, Pr, etc.; Z = aliph. ring residue; R12-16 = C1-4 alkyl, aliph. hydrocarbon; R17-21 = H, C1-4 alkyl, aliph. hydrocarbon, etc.; R22-25 = C1-4 alkyl, aliph. hydrocarbon) and wherein **acid** generator has structure has (R1) (R2) (R3)S+ X- or (R4)-I+-(R5) X- (R1-5 = aliph. hydrocarbon, arom. hydrocarbon; X- = R6-SO2-N--SO2-R7, R6-SO2-C-(-SO2-R9)(-SO2-R10); R6-10 = aliph. hydrocarbon). The compn. provides the resist of high resoln. and wide exposure margin.

IT **460731-29-7**
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid** generator; pos.-working electron-beam or x-ray resist compn.)

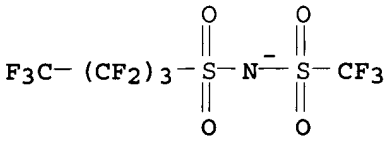
RN 460731-29-7 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt

with 1,1,2,2,3,3,4,4,4-nonafluoro-N-[(trifluoromethyl)sulfonyl]-1-butanesulfonamide (1:1) (9CI) (CA INDEX NAME)

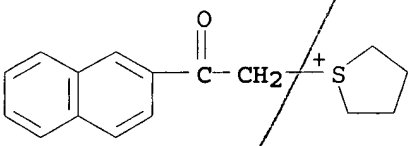
CM 1

CRN 230627-60-8
CMF C5 F12 N O4 S2



CM 2

CRN 71967-57-2
CMF C16 H17 O S



IC ICM G03F007-039
ICS C08K005-00; C08L033-04; C08L101-02; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35
ST pos working photoresist compn resin **acid** generator
IT 393110-05-9 460731-17-3 460731-18-4 460731-19-5 460731-20-8
460731-21-9 460731-23-1 460731-25-3 460731-26-4 460731-27-5
460731-28-6 **460731-29-7** 460731-32-2
RL: TEM (Technical or engineered material use); USES (Uses)
(**acid** generator; pos.-working electron-beam or x-ray resist compn.)
IT 250378-10-0P 288303-55-9P 364736-20-9P 364736-22-1P
398140-36-8P 398140-38-0P 398140-40-4P 398140-43-7P
398140-45-9P 398140-47-1P 398140-48-2P 398140-50-6P
398140-52-8P 398140-55-1P 405509-19-5P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**acid**-sensitive resin; pos.-working electron-beam or x-ray resist compn.)

L13 ANSWER 35 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:673049 HCAPLUS
DOCUMENT NUMBER: 137:208381
TITLE: Storage-stable chemically amplified UV positive photoresist compositions with good post-exposure

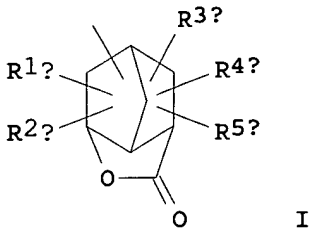
stability for halftone exposure
INVENTOR(S): Sato, Kenichiro; Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 87 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002251013	A2	20020906	JP 2001-48880	20010223
US 2003017415	A1	20030123	US 2002-79414	20020222
US 6858370	B2	20050222		
TW 548523	B	20030821	TW 2002-91103178	20020222

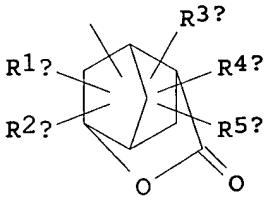
PRIORITY APPLN. INFO.:

JP 2001-48602	A	20010223
JP 2001-48783	A	20010223
JP 2001-48784	A	20010223
JP 2001-48880	A	20010223
JP 2001-157366	A	20010525
JP 2001-157367	A	20010525

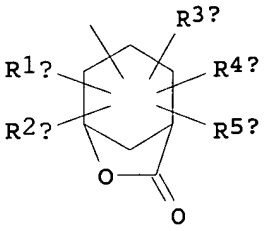
GI



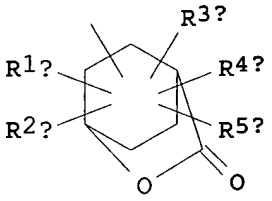
I



II



III



IV

AB The compns. comprise (A) resins contg. alicyclic hydrocarbon groups and groups selected from I, II, III, and IV (R1b, R2b, R3b, R4b, R5b = H, alkyl, cycloalkyl, alkenyl), which increase their alkali soly. by **acid** decompn. and (B) ≥2 **photoacid** generators selected from triarylsulfonium salts, phenacylsulfonium salts, and non-arom. sulfonium salts.

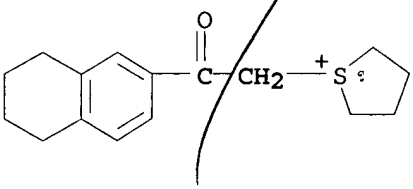
IT **454471-11-5**
RL: CAT (Catalyst use); USES (Uses)
(**photoacid** generator; storage-stable chem. amplified UV pos. photoresists with good post-exposure stability for halftone exposure)

RN 454471-11-5 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-oxo-2-(5,6,7,8-tetrahydro-2-naphthalenyl)ethyl]-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 454471-10-4
CMF C16 H21 O S



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

$^{-}O_3S-(CF_2)_3-CF_3$

IC ICM G03F007-039
ICS C08F020-28; C08F032-04; C08F032-08; C08K005-36; C08L101-06; G03F007-004; H01L021-027
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST pos photoresist UV chem amplification halftone; phenacylsulfonium arylsulfonium **photoacid** generator UV photoresist; storage stability polycycloolefin photoresist excimer laser
IT Sulfonium compounds
RL: CAT (Catalyst use); USES (Uses)
(arene, **photoacid** generator; storage-stable chem. amplified UV pos. photoresists with good post-exposure stability for halftone exposure)
IT Aromatic compounds
RL: CAT (Catalyst use); USES (Uses)
(sulfonium, **photoacid** generator; storage-stable chem. amplified UV pos. photoresists with good post-exposure stability for halftone exposure)
IT 66003-78-9 144089-15-6 144317-44-2 145612-66-4 160481-39-0
171292-12-9 177034-80-9 240424-21-9 241806-75-7 241806-76-8
258872-05-8 284474-28-8 301153-77-5 301153-78-6 301525-08-6
301664-71-1 301664-72-2 338445-24-2 338445-29-7 343629-51-6
347193-28-6 347193-29-7 371921-65-2 383367-32-6 389859-76-1
391232-40-9 398141-18-9 398141-19-0 398141-21-4 414911-37-8
414911-52-7 421555-72-8 442906-51-6 454471-05-7 454471-06-8
454471-07-9 454471-09-1 **454471-11-5** 454471-13-7
454471-15-9 454471-16-0 454471-17-1 454471-22-8 454471-23-9
454471-25-1 455521-76-3 455521-89-8
RL: CAT (Catalyst use); USES (Uses)
(**photoacid** generator; storage-stable chem. amplified UV pos. photoresists with good post-exposure stability for halftone exposure)

L13 ANSWER 36 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:100298 HCAPLUS
DOCUMENT NUMBER: 134:334098
TITLE: Studies on reaction mechanisms of EB resist by pulse radiolysis
AUTHOR(S): Tsuji, Shou; Kozawa, Takahiro; Yamamoto, Yukio; Tagawa, Seiichi
CORPORATE SOURCE: The Institute of Scientific and Industrial Research, Osaka University, Osaka, 567-0047, Japan
SOURCE: Journal of Photopolymer Science and Technology (2000), 13(5), 733-738
CODEN: JSTEEW; ISSN: 0914-9244
PUBLISHER: Technical Association of Photopolymers, Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
AB For development and improvement of chem. amplified resists, the

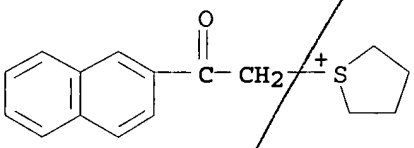
mechanisms of **acid**-generation reactions and the matrix effects were studied by using a pulse radiolysis technique. Ionic and nonionic **acid** generators act as electron scavengers when irradiated with an ionizing radiation in methanol solns., resulting in the formation of Bronsted **acids**. Rate consts. for the reactions of the **acid** generators with a solvated electron have been detd. The rate consts. of the onium salts were in the range of (1.6 .apprx. 2.7) + 1010 M-1-s-1. The nonionic **acid** generators were also found to be highly reactive to the solvated electron. Regardless of the structures and the polarities, the **acid** generators contribute to the **acid** generation by scavenging the solvated electron with the rates close to the diffusion-controlled limit. The reaction of **acid** generator with electrons trapped by base polymer was clarified. It would appear that electron scavenging reaction by **acid** generator in chem. amplified EB resist have two processes, and both process contribute to **acid** generation mechanism.

IT **336109-09-2**
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(reaction mechanisms of chem. amplified electron-beam resist studied by pulse radiolysis)

RN 336109-09-2 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, methanesulfonate (9CI) (CA INDEX NAME)

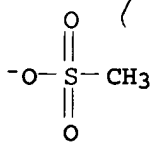
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 16053-58-0
CMF C H3 O3 S



CC 74-1 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST radiolysis chem amplified electron beam resist **acid** generation mechanism

IT 67-56-1, Methanol, reactions 6542-67-2, 2,4,6-(Trichloromethyl)-triazine 10409-06-0, Diphenyl disulfone 24504-22-1, 2-Phenyl-4,6-bis(trichloromethyl)-1,3,5-triazine 25086-36-6 57840-38-7, Triphenylsulfonium hexafluoroantimonate 66003-76-7, Diphenyliodonium trifluoromethanesulfonate 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 114719-51-6 **336109-09-2** 336109-10-5
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(reaction mechanisms of chem. amplified electron-beam resist studied by pulse radiolysis)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 37 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:806348 HCAPLUS
DOCUMENT NUMBER: 134:214828
TITLE: Methods to improve radiation sensitivity of chemically amplified resists by using chain reactions of **acid** generation
AUTHOR(S): Nagahara, Seiji; Sakurai, Yusuke; Wakita, Masanori; Yamamoto, Yukio; Tagawa, Seiichi; Komuro, Masanori; Yano, Ei; Okazaki, Shinji
CORPORATE SOURCE: Osaka Univ., Sagamihara Kanagawa, Japan
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2000), 3999(Pt. 1, Advances in Resist Technology and Processing XVII), 386-394
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The approach toward the enhancement of the resist sensitivity was investigated by introducing the radical chain reactions into the **acid** generation processes. The **acid** yields of various ionic and nonionic **acid** generators in some solvents and films were examd. to search the most efficient system of the radical chain **acid** proliferation reactions. The **acid** proliferation was discussed using Gibbs free energy change of the electron transfer reactions in the chain reactions. The most efficient system to realize the chain reactions was the combination of iodonium salt **acid** generator and secondary alc. **acid** amplifiers. In acrylic polymer resists contg. the iodonium salt and the alc. compds., resist sensitivity was enhanced in electron beam lithog.

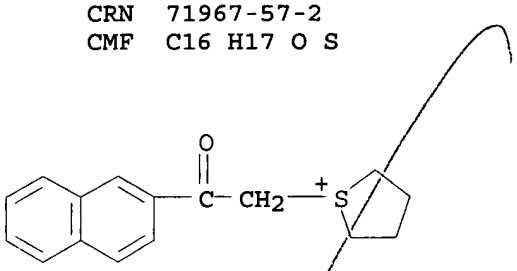
IT **160509-78-4**
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(radiation-chem. yields of **acid** generation from **acid** generators in solvents and films in relation to improvement of radiation sensitivity of chem. amplified resists by using chain reactions of **acid** generation)

RN 160509-78-4 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

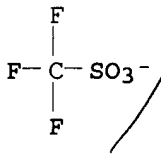
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST chem amplified resist radiation sensitivity **acid** generation chain reaction; electron lithog chem amplified resist **acid** generation chain reaction; radiolysis **acid** generator chem amplified resist sensitivity

IT Reaction mechanism
(chain; improvement of radiation sensitivity of chem. amplified resists by using chain reactions of **acid** generation)

IT Electron beam resists
(chem. amplified; radiation-chem. yields of **acid** generation from **acid** generators in solvents and films in relation to improvement of radiation sensitivity of chem. amplified resists by using chain reactions of **acid** generation)

IT Phenolic resins, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(novolak; radiation-chem. yields of **acid** generation from **acid** generators in films in relation to improvement of radiation sensitivity of chem. amplified resists by using chain reactions of **acid** generation)

IT Free energy
Radiolysis
(radiation-chem. yields of **acid** generation from **acid** generators in solvents and films in relation to improvement of radiation sensitivity of chem. amplified resists

by using chain reactions of **acid** generation)
IT 497-37-0, exo-Norborneol 122752-67-4, tert-Butyl cholate
RL: NUU (Other use, unclassified); USES (Uses)
(alc. additive; radiation-chem. yields of **acid** generation from **acid** generators in films in relation to improvement of radiation sensitivity of chem. amplified resists by using chain reactions of **acid** generation)
IT 24979-70-2, p-Hydroxystyrene homopolymer
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(radiation-chem. yields of **acid** generation from **acid** generators in films in relation to improvement of radiation sensitivity of chem. amplified resists by using chain reactions of **acid** generation)
IT 1493-13-6, Triflic **acid**
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(radiation-chem. yields of **acid** generation from **acid** generators in solvents and films in relation to improvement of radiation sensitivity of chem. amplified resists by using chain reactions of **acid** generation)
IT 9011-14-7, PMMA 25189-00-8, tert-Butyl methacrylate homopolymer
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(radiation-chem. yields of **acid** generation from **acid** generators in solvents and films in relation to improvement of radiation sensitivity of chem. amplified resists by using chain reactions of **acid** generation)
IT 6542-67-2 10409-06-0 66003-76-7, Diphenyliodonium triflate 66003-78-9, Triphenylsulfonium triflate 85342-62-7 114719-51-6 160481-39-0 **160509-78-4**
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(radiation-chem. yields of **acid** generation from **acid** generators in solvents and films in relation to improvement of radiation sensitivity of chem. amplified resists by using chain reactions of **acid** generation)
IT 35343-63-6, tert-Butyl methacrylate-methacrylic **acid** copolymer 328236-73-3, 2-Methyl-2-adamantylmethacrylate-3-hydroxy-γ-butyrolactone copolymer
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(resist; improvement of radiation sensitivity of chem. amplified resists by using chain reactions of **acid** generation)
IT 64-17-5, Ethanol, properties 67-56-1, Methanol, properties 67-63-0, Isopropanol, properties 75-65-0, tert-Butanol, properties 109-99-9, THF, properties
RL: PRP (Properties)
(solvent effect; radiation-chem. yields of **acid** generation from **acid** generators in solvents and films in relation to improvement of radiation sensitivity of chem. amplified resists by using chain reactions of **acid** generation)
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 38 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:388514 HCAPLUS
DOCUMENT NUMBER: 133:24706
TITLE: **Photoacid** generators for chemically amplified photoresists
INVENTOR(S): Breyta, Gregory; Brock, Phillip J.; Dawson, Daniel J.; Dellaguardia, Ronald A.; Dewan, Charlotte R.; Eckert, Andrew R.; Ito, Hiroshi; Jagannathan, Premlatha; Linehan, Leo L.; Martinek, Kathleen H.; Moreau, Wayne M.; Smith, Randolph J.
PATENT ASSIGNEE(S): International Business Machines Corporation, USA
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6074800	A	20000613	US 1998-64955	19980423

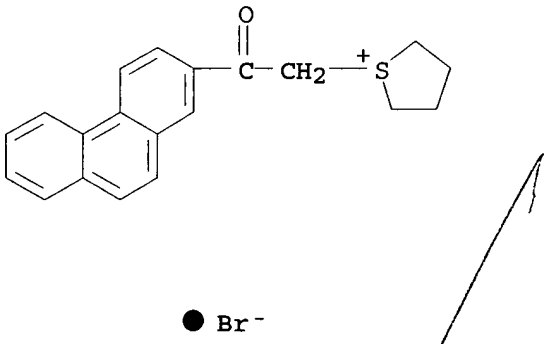
PRIORITY APPLN. INFO.: US 1998-64955 19980423

OTHER SOURCE(S): MARPAT 133:24706

AB Several mid-UV **photoacid** generators (PAGs) are disclosed for use in chem. amplified photoresists with an improved speed and nested to isolated line bias. Unlike conventional mid-UV PAGs, the PAGs do not require a mid-UV sensitizer. Specifically, the PAGs bear a chromophore capable of receiving a mid-UV radiation, particularly I-line, and are suitable for use in chem. amplified photoresists having a speed of 500 mJ/cm2 or less, but preferably 200 mJ/cm2 or less. The PAGs can be sulfonium or iodonium salts, such as 9-anthrylbutylmethylsulfonium triflate and bis(4-tert-butylphenyl)iodonium 9,10-dimethoxyanthracenesulfonate. The chromophore forming a part of the PAGs can be selected from polyarom. hydrocarbons, for example, chrysenes, pyrenes, fluoranthenes, anthrones, benzophenones, thioxanthones, anthracenes, and phenanthrenes, but preferably anthracenes.

IT **272459-92-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction in synthesis of mid-UV **photoacid** generator for chem. amplified photoresists)

RN 272459-92-4 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-oxo-2-(2-phenanthrenyl)ethyl]-, bromide (9CI) (CA INDEX NAME)



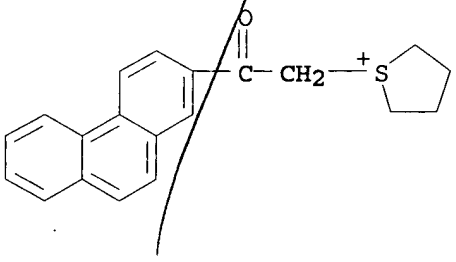
● Br^-

IT **272459-91-3P 272459-93-5P 272459-94-6P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(synthesis and use as mid-UV **photoacid** generator for chem. amplified photoresists)

RN 272459-91-3 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-oxo-2-(2-phenanthrenyl)ethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

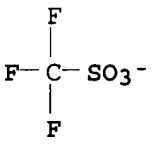
CM 1

CRN 272459-90-2
CMF C20 H19 O S

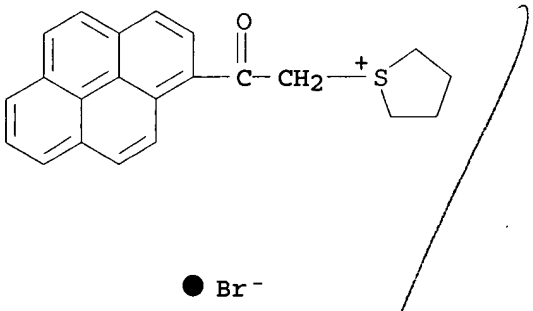


CM 2

CRN 37181-39-8
CMF C F3 O3 S

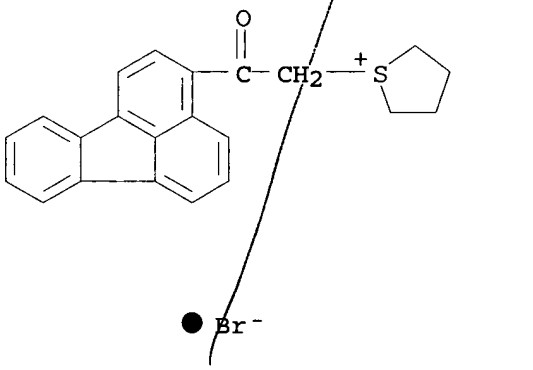


RN 272459-93-5 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-oxo-2-(1-pyrenyl)ethyl]-, bromide (9CI) (CA INDEX NAME)



● Br^-

RN 272459-94-6 HCAPLUS
CN Thiophenium, 1-[2-(3-fluoranthenyl)-2-oxoethyl]tetrahydro-, bromide (9CI) (CA INDEX NAME)



● Br^-

IC ICM G03F007-004
INCL 430270100
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST UV **photoacid** generator sulfonium salt chem amplified photoresist; iodonium salt UV **photoacid** generator chem amplified photoresist
IT Photoresists
(chem. amplified; sulfonium and iodonium salts as mid-UV **photoacid** generators for)
IT 175284-06-7, tert-Butyl acrylate-hydroxystyrene copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(chem. amplified photoresists contg. mid-UV **photoacid** generators and)
IT 2395-96-2P, 9-Methoxyanthracene 34585-55-2P, 2-(2-Bromoacetyl)phenanthrene 74851-72-2P 185195-27-1P **272459-92-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction in synthesis of mid-UV **photoacid** generator for chem. amplified photoresists)
IT 90-44-8, Anthrone 98-06-6, tert-Butylbenzene 109-79-5,

Butylmercaptan 110-01-0, Tetrahydrothiophene 333-27-7, Methyl trifluoromethanesulfonate 2923-28-6, Silver trifluoromethanesulfonate 5960-69-0, 2-Acetylphenanthrene 7726-95-6, Bromine, reactions 7790-21-8, Potassium periodate 272459-87-7 272459-88-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction in synthesis of mid-UV **photoacid** generator for chem. amplified photoresists)

IT 137309-03-6P 272459-86-6P 272459-89-9P **272459-91-3P** **272459-93-5P** **272459-94-6P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(synthesis and use as mid-UV **photoacid** generator for chem. amplified photoresists)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 39 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:557100 HCAPLUS
DOCUMENT NUMBER: 131:206965
TITLE: Negative-working photosensitive composition and pattern formation using same
INVENTOR(S): Naito, Takuya; Gokochi, Toru; Kihara, Shoko
PATENT ASSIGNEE(S): Toshiba Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11237741	A2	19990831	JP 1998-39331	19980220
JP 3046574	B2	20000529		
PRIORITY APPLN. INFO.:			JP 1998-39331	19980220

AB The title compn. contains an alkali-sol. benzene ring-free resin having an **acid** and/or **acid** anhydride in its structure, an epoxy ring-contg. compd. with mol. wt. ≤2000, and a compd. generating an **acid** or base upon chem. radiation irradn. The title process comprises the steps of forming a photosensitive layer based on the compn. on a substrate, exposing the layer selectively with an ArF excimer laser beam, heating the exposed layer, and developing the heated layer to remove the unexposed area selectively. The compn. provides a high resoln. pattern by using short wavelength light, esp. ArF excimer laser.

IT **160509-78-4**
RL: CAT (Catalyst use); USES (Uses)
(neg.-working photoresist contg. alkali-sol. benzene ring-free

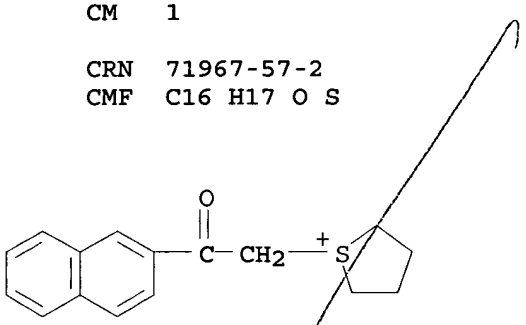
resin, epoxy compd., and chem. radiation-sensitive **acid** - or base-releasing agent)

RN 160509-78-4 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

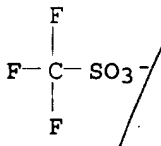
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



IC ICM G03F007-038
ICS H01L021-027

CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST neg working photoresist alkali sol resin; benzene ring free resin neg working photoresist; **acid** anhydride substituted resin photoresist; epoxy compd regulated mol wt photoresist; chem radiation sensitive **acid** generating compd; base generating compd chem radiation sensitive; heating development neg working photoresist patterning

IT Excimer lasers
(for neg.-working photoresist contg. alkali-sol. benzene ring-free resin, epoxy compd., and chem. radiation-sensitive **acid**- or base-releasing agent)

IT Negative photoresists
(neg.-working photoresist contg. alkali-sol. benzene ring-free resin, epoxy compd., and chem. radiation-sensitive **acid** - or base-releasing agent)

IT Semiconductor device fabrication
(neg.-working photoresist contg. alkali-sol. benzene ring-free resin, epoxy compd., and chem. radiation-sensitive **acid** - or base-releasing agent for)

IT 241473-05-2, NBC 101

RL: CAT (Catalyst use); USES (Uses)
(base-generating agent; neg.-working photoresist contg. alkali-sol. benzene ring-free resin, epoxy compd., and chem. radiation-sensitive **acid**- or base-releasing agent)

IT 66003-76-7, Diphenyliodonium triflate 66003-78-9, Triphenylsulfonium triflate **160509-78-4**
RL: CAT (Catalyst use); USES (Uses)
(neg.-working photoresist contg. alkali-sol. benzene ring-free resin, epoxy compd., and chem. radiation-sensitive **acid** - or base-releasing agent)

IT 181725-84-8P 202654-73-7P, Methacrylic **acid**-menthyl acrylate-methyl methacrylate copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(neg.-working photoresist contg. alkali-sol. benzene ring-free resin, epoxy compd., and chem. radiation-sensitive **acid** - or base-releasing agent)

IT 3712-92-3 149869-05-6, Acrylic **acid**-methyl methacrylate-tetracyclododecanyl acrylate copolymer 240809-45-4, Acrylic **acid**-methyl methacrylate-tricyclodecanyl acrylate copolymer 240809-46-5 240809-47-6, Maleic anhydride-methyl methacrylate-2-norbornyl acrylate copolymer 240809-48-7, Acrylic **acid**-methyl methacrylate-2-naphthyl methacrylate copolymer 240809-49-8
RL: TEM (Technical or engineered material use); USES (Uses)
(neg.-working photoresist contg. alkali-sol. benzene ring-free resin, epoxy compd., and chem. radiation-sensitive **acid** - or base-releasing agent)

L13 ANSWER 40 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:189047 HCAPLUS
DOCUMENT NUMBER: 130:230068
TITLE: The composition for subbing layer and pattern formation using same
INVENTOR(S): Sato, Yasuhiko; Onishi, Kiyonobu
PATENT ASSIGNEE(S): Toshiba Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11072925	A2	19990316	JP 1998-186575	19980701
US 6054254	A	20000425	US 1998-108967	19980702
PRIORITY APPLN. INFO.:			JP 1997-178671 A	19970703

AB Pattern formation comprises (1) forming a subbing layer on a process required film, (2) forming a resist film on the subbing layer, (3) exposing the subbing layer and the resist film, and (4) developing the exposed subbing layer and the resist film with a developer soln., wherein the subbing layer shows different soly. to the developer soln. on **acid** condition, and an **acid** -generator is contained in the subbing layer and/or the resist film.

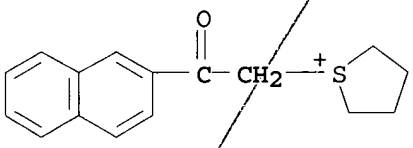
IT **160509-78-4**
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(**acid**-generator contained in subbing layer compn. for pattern formation)

RN 160509-78-4 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

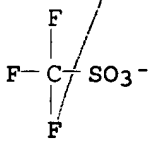
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



IC ICM G03F007-11
ICS G03F007-039; H01L021-027

CC 74-13 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST subbing layer **acid** generator pattern formation; soly suppressing agent subbing layer

IT Photoimaging materials
(subbing layer compn. contg. **acid** generator and/or soly. -suppressing agent)

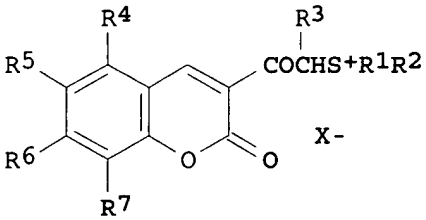
IT 55048-39-0 66003-76-7 66003-78-9 160481-39-0
160509-78-4
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(**acid**-generator contained in subbing layer compn. for pattern formation)

L13 ANSWER 41 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:42554 HCAPLUS
DOCUMENT NUMBER: 130:102894
TITLE: Initiators for cationic polymerization
INVENTOR(S): Schon, Lothar; Rogler, Wolfgang; Muhrer, Volker; Fedtke, Manfred; Palinsky, Andreas
PATENT ASSIGNEE(S): Siemens Aktiengesellschaft, Germany
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 889361	A1	19990107	EP 1998-111154	19980617
EP 889361	B1	20020123		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AT 212451	E	20020215	AT 1998-111154	19980617
US 6162881	A	20001219	US 1998-105144	19980626
JP 11035613	A2	19990209	JP 1998-201114	19980630
PRIORITY APPLN. INFO.:			DE 1997-19727820 A	19970630

OTHER SOURCE(S): MARPAT 130:102894
GI



I

AB A new photoinitiator for cationic polymn. has a following structure I (R1, R2 = C1-9 alkyl, C4-9 cycloalkyl; R1 joining together with R2

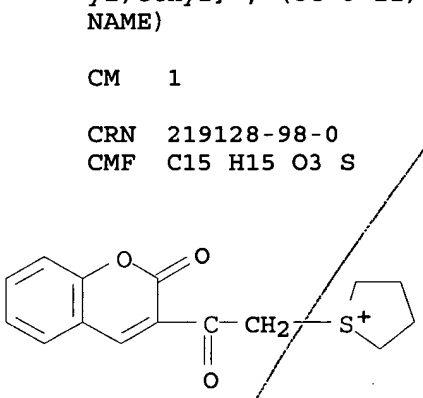
may form C4-7 divalent aliph. group; R3 = H, C1-9 alkyl; R4-7 = H, C1-9 alkyl, C1-9 alkoxy; X- = non-nucleophilic anion, like hexafluoroantimonate, -arsenate and -phosphate, tetraphenylborate, tetra(perfluorophenyl)borate or trifluoromethanesulfonate). The reactive resin mixt. comprises (1) a cationic polymerizable monomer and/or oligomer, (2) the new photoinitiator, and (3) an optional filler, pigment and/or additive. The mixt., showing improved storage stability, is suitable for stereolithog.

IT **219128-99-1P 219129-02-9P 219129-05-2P 219129-07-4P**
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(in prepn. of initiators for cationic polymn.)

RN 219128-99-1 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-oxo-2-(2-oxo-2H-1-benzopyran-3-yl)ethyl]-, (OC-6-11)-hexafluoroantimonate(1-) (9CI) (CA INDEX NAME)

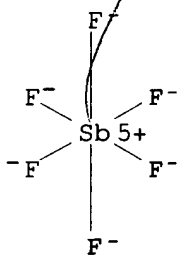
CM 1

CRN 219128-98-0
CMF C15 H15 O3 S



CM 2

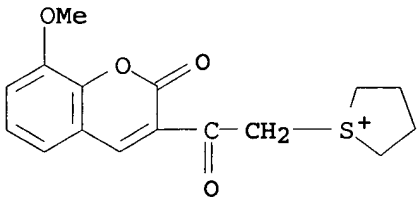
CRN 17111-95-4
CMF F6 Sb
CCI CCS



RN 219129-02-9 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(8-methoxy-2-oxo-2H-1-benzopyran-3-yl)-2-oxoethyl]-, (OC-6-11)-hexafluoroantimonate(1-) (9CI) (CA INDEX NAME)

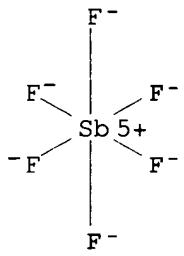
CM 1

CRN 219129-01-8
CMF C16 H17 O4 S



CM 2

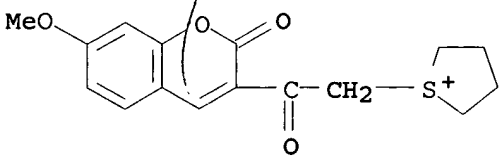
CRN 17111-95-4
CMF F6 Sb
CCI CCS



RN 219129-05-2 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(7-methoxy-2-oxo-2H-1-benzopyran-3-yl)-2-oxoethyl]-, (OC-6-11)-hexafluoroantimonate(1-) (9CI) (CA INDEX NAME)

CM 1

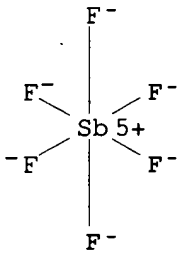
CRN 219129-04-1
CMF C16 H17 O4 S



CM 2

CRN 17111-95-4
CMF F6 Sb

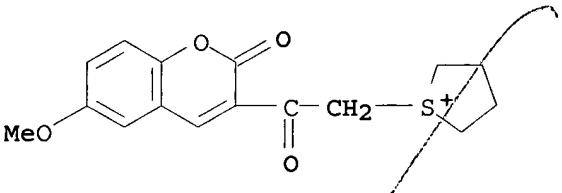
CCI CCS



RN 219129-07-4 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(6-methoxy-2-oxo-2H-1-benzopyran-3-yl)-2-oxoethyl]-, (OC-6-11)-hexafluoroantimonate(1-) (9CI) (CA INDEX NAME)

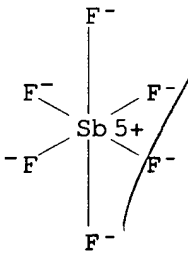
CM 1

CRN 219129-06-3
CMF C16 H17 O4 S



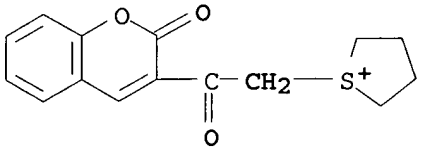
CM 2

CRN 17111-95-4
CMF F6 Sb
CCI CCS

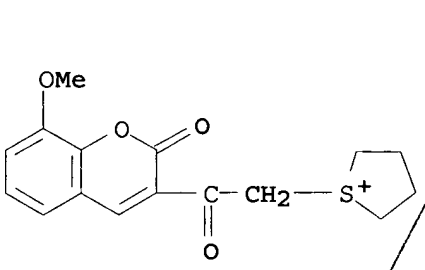


IT **219129-00-7P 219129-03-0P 219129-08-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in prepn. of initiators for cationic polymn.)
RN 219129-00-7 HCAPLUS

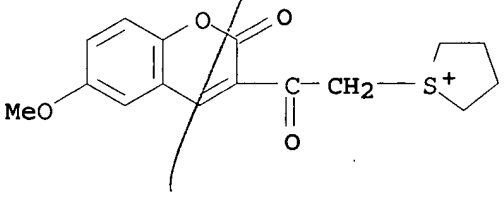
CN Thiophenium, tetrahydro-1-[2-oxo-2-(2-oxo-2H-1-benzopyran-3-yl)ethyl]-, bromide (9CI) (CA INDEX NAME)



RN 219129-03-0 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(8-methoxy-2-oxo-2H-1-benzopyran-3-yl)-2-oxoethyl]-, bromide (9CI) (CA INDEX NAME)



RN 219129-08-5 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(6-methoxy-2-oxo-2H-1-benzopyran-3-yl)-2-oxoethyl]-, bromide (9CI) (CA INDEX NAME)



IC ICM G03F007-029
ICS C07D311-06
CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **219128-99-1P 219129-02-9P 219129-05-2P**
219129-07-4P
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(in prepn. of initiators for cationic polymn.)
IT 110-01-0, Tetrahydrothiophene 141-97-9, Acetoacetic **acid** ethyl ester 148-53-8, 3-Methoxysalicylaldehyde 672-13-9, 5-Methoxy-salicylaldehyde 673-22-3, 4-Methoxy-salicylaldehyde 3949-36-8, 3-Acetylcoumarin 7726-95-6, Bromine, reactions 13252-80-7, 3-Acetyl-(6-methoxy)-coumarin 16925-25-0, Sodium hexafluoroantimonate 64267-19-2, 3-Acetyl-(7-methoxy)-coumarin
RL: RCT (Reactant); RACT (Reactant or reagent)
(in prepn. of initiators for cationic polymn.)
IT 5452-39-1P 29310-88-1P, 3-(Bromoacetyl)coumarin 106578-18-1P 144663-93-4P 155160-79-5P **219129-00-7P**
219129-03-0P 219129-08-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in prepn. of initiators for cationic polymn.)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 42 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:580663 HCAPLUS
DOCUMENT NUMBER: 127:177240
TITLE: Energy ray-sensitive **acid**-forming agents as crosslinking catalysts and compositions containing them and curable compositions therefrom
INVENTOR(S): Toba, Yasumasa; Tanaka, Yasuhiro; Yasuike, Madoka
PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09176112	A2	19970708	JP 1995-342492	19951228

PRIORITY APPLN. INFO.: JP 1995-342492 19951228

OTHER SOURCE(S): MARPAT 127:177240
AB The agents consist of sulfonium borate compds. having a (1) sulfonium cation component R1SR2R3 [R1 = benzyl, substituted benzyl, phenacyl, substituted phenacyl, allyl, substituted allyl, alkoxyl, substituted alkoxyl, aryloxy, substituted aryloxy; R2, R3 = C1-18 linear, branched, or cyclic alkyl group optionally substituted with

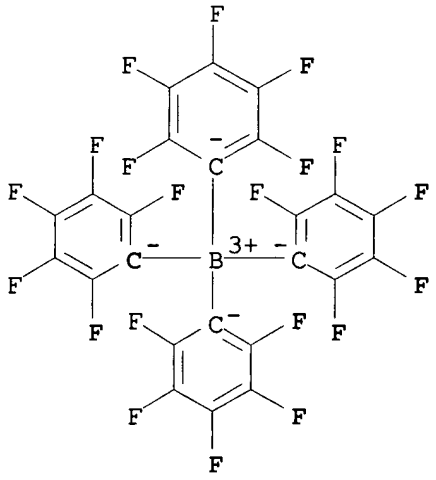
F, Cl, Br, OH, carboxy, mercapto, cyano, nitro, or azido group; C6-18 single ring-type or polycyclic aryl group optionally substituted with F, Cl, Br, OH, carboxy, mercapto, cyano, nitro, or azido group (R1 and R2. R1 and R3, and R2 and R3 may form a ring)] and (2) borate anion component (BYmZn)- (Y = F, Cl; Z = Ph group substituted with ≥2 electron attracting groups selected from F, cyano groups, nitro groups, and trifluoromethyl groups; m = 0-3; n = 1-4; m + n = 4). Curable compns. contg. the agents are useful for inks, printing materials, photoresists, and adhesives (no data). Thus, 0.275 part benzyldimethylsulfonium chloride was treated with 1.0 part Li tetrakis(pentafluorophenyl) borate to give benzyldimethylsulfonium tetrakis(pentafluorophenyl) borate (I). A compn. comprising 100 parts ERL-4221 (epoxy resin) and 1 part I was exposed to UV rays for 5 min to give a cured product.

IT **193957-54-9P**
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(crosslinking catalyst; energy ray-sensitive **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them)

RN 193957-54-9 HCAPLUS
CN Sulfonium, dimethyl[2-(2-naphthalenyl)-2-oxoethyl]-, tetrakis(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

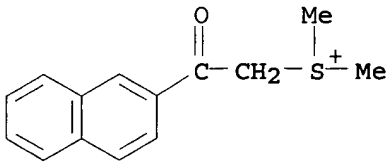
CM 1

CRN 47855-94-7
CMF C24 B F20
CCI CCS

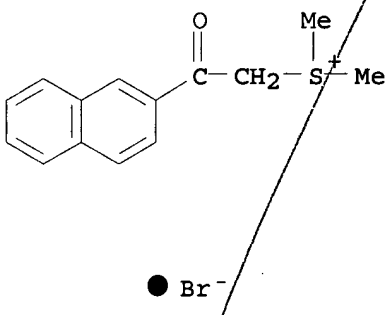


CM 2

CRN 46714-38-9
CMF C14 H15 O S



IT **6267-01-2**, Dimethyl(2-naphthoylmethyl)sulfonium bromide
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with borate compds.; energy ray-sensitive **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them)
RN 6267-01-2 HCAPLUS
CN Sulfonium, dimethyl[2-(2-naphthalenyl)-2-oxoethyl]-, bromide (9CI) (CA INDEX NAME)



IC ICM C07C381-12
ICS C08F002-50; C08F004-52; C08G085-00; G03C001-675; G03F007-004; C08G059-72
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 23, 38, 42, **74**
IT Adhesives
Inks
Photoresists
((no data); energy ray-sensitive **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them for)
IT UV radiation
(crosslinking by; **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them)
IT Crosslinking
(energy ray-sensitive **acid**-forming sulfonium borate compds. and curable compns. contg. them)
IT Epoxy resins, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(energy ray-sensitive **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them)
IT Crosslinking catalysts

(photochem.; energy ray-sensitive **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them)

IT 9011-14-7, Poly(methyl methacrylate)
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(binder; energy ray-sensitive **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them)

IT **193957-54-9P** 193957-55-0P 193957-56-1P 193957-57-2P 193957-58-3P
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(crosslinking catalyst; energy ray-sensitive **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them)

IT 193957-53-8P
RL: CAT (Catalyst use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(crosslinking catalyst; energy ray-sensitive **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them)

IT 193957-59-4
RL: CAT (Catalyst use); PRP (Properties); USES (Uses)
(crosslinking catalyst; energy ray-sensitive **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them)

IT 25085-98-7, ERL 4221 176206-11-4
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(energy ray-sensitive **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them)

IT 5667-47-0, Dimethylphenacylsulfonium bromide **6267-01-2**, Dimethyl(2-naphthoylmethyl)sulfonium bromide 14182-14-0, Benzyldimethylsulfonium chloride 153146-39-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with borate compds.; energy ray-sensitive **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them)

IT 2797-28-6, Lithium tetrakis(pentafluorophenyl) borate 153347-65-0, Lithium tetrakis]3,5-bis(trifluoromethyl)phenyl] borate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with sulfonium compds.; energy ray-sensitive **acid**-forming sulfonium borate compds. as crosslinking catalysts and curable compns. contg. them)

L13 ANSWER 43 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:509333 HCAPLUS
DOCUMENT NUMBER: 127:206410
TITLE: Sulfoxonium borates as energy-sensitive **acid**-generating agents, their compositions, curable compositions using the agents, and hybrid curable compositions
INVENTOR(S): Toba, Yasumasa; Tanaka, Yasuhiro; Yasuike, Madoka

PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 51 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09194820	A2	19970729	JP 1996-4455	19960116

PRIORITY APPLN. INFO.: JP 1996-4455 19960116

OTHER SOURCE(S): MARPAT 127:206410

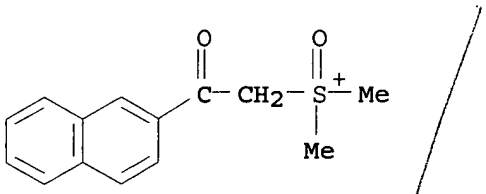
AB Title **acid**-generating agents R1R2R3S(O)+ BYmZn- [R1 = (substituted) C6-20 aralkyl, (substituted) C6-20 arylacyl, (substituted) C2-8 alkenyl; R2-R3 = R1, (substituted) C1-18 alkyl, (substituted) C6-20 aryl, C2-8 alkynyl, C3-10 alicyclic group, (substituted) C1-18 alkoxy, (substituted) C1-18 alkylthio; R2 and R3 may form ring; Y = F, Cl; Z = Ph substituted with ≥2 electron-attractive groups selected from F, cyano, NO2, CF3; m = 0-3; n = 1-4; m + n = 4] are mixed with sensitizers to give title compns. Further claimed are (A) curable compns. comprising the described compns. and **acid**-curable compds. and (B) hybrid curable compns. comprising A, radically curable compds., and radical initiators. The compns. are applicable to various uses, e.g., plastic moldings, sealants, photoresists, photosensitive printing plates, etc. Thus, 2.4 parts dimethylphenacylsulfoxonium chloride and 6.8 parts Li tetrakis(pentafluorophenyl)borate were reacted at 25° for 2 h to give title **acid**-generating agent, 3 parts of which was mixed with 100 parts ERL 4221 (epoxy compds.), applied on an Al plate, and UV-irradiated to give a tack-free film.

IT **194470-30-9 194470-32-1**
RL: CAT (Catalyst use); USES (Uses)
(**acid**-generating agents; sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns.)

RN 194470-30-9 HCAPLUS
CN Sulfoxonium, dimethyl[2-(2-naphthalenyl)-2-oxoethyl]-, tetrakis(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

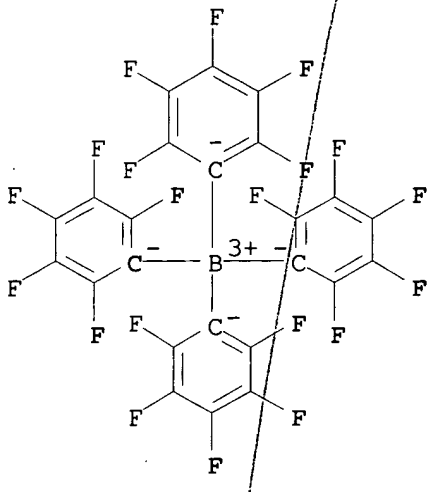
CM 1

CRN 194470-29-6
CMF C14 H15 O2 S



CM 2

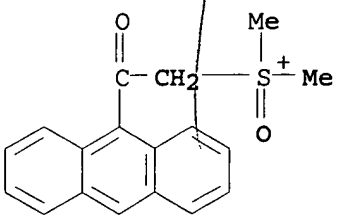
CRN 47855-94-7
CMF C24 B F20
CCI CCS



RN 194470-32-1 HCAPLUS
CN Sulfoxonium, [2-(9-anthracenyl)-2-oxoethyl]dimethyl-, tetrakis(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

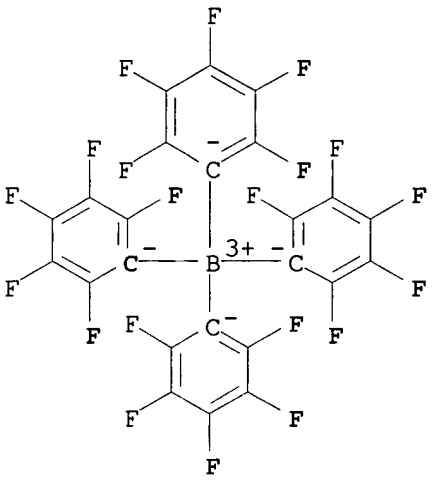
CM 1

CRN 194470-31-0
CMF C18 H17 O2 S



CM 2

CRN 47855-94-7
CMF C24 B F20
CCI CCS



IC ICM C09K003-00
ICS C08F004-14; C08F002-48
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): **74**
ST energy sensitive **acid** generating agent; sulfonium borate **acid** generating agent; curable epoxy compd **acid** generating agent; radically polymerizable compd hybrid compn
IT Polymer blends
RL: TEM (Technical or engineered material use); USES (Uses)
(blends of **acid**-cured resins and radically polymd. resins)
IT Aminoplasts
Epoxy resins, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(crosslinked; sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns.)
IT Polymerization catalysts
(radical; sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns.)
IT Photoresists
(sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns.)
IT Polyesters, preparation
Polyoxyalkylenes, preparation
Silsesquioxanes
RL: IMF (Industrial manufacture); PREP (Preparation)
(sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns.)
IT 194470-14-9 194470-15-0 194470-17-2 194470-18-3 194470-19-4

194470-21-8 194470-22-9 194470-23-0 194470-24-1 194470-25-2
194470-26-3 194470-27-4 194470-28-5 **194470-30-9**
194470-32-1 194470-34-3
RL: CAT (Catalyst use); USES (Uses)
(**acid**-generating agents; sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns.)

IT 194470-13-8P 194470-20-7P
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(**acid**-generating agents; sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns.)

IT 9003-08-1P, Cymel 300 24979-97-3P 25085-98-7P, ERL 4221
31213-03-3P, γ-Butyrolactone homopolymer
RL: IMF (Industrial manufacture); PREP (Preparation)
(crosslinked; sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns.)

IT 75980-60-8, 2,4,6-Trimethylbenzoyl diphenylphosphine oxide
RL: CAT (Catalyst use); USES (Uses)
(radial initiators; sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns. contg.)

IT 153148-27-7
RL: CAT (Catalyst use); USES (Uses)
(radical initiators; sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns. contg.)

IT 781-43-1, 9,10-Dimethylanthracene 1499-10-1, 9,10-Diphenylanthracene 10075-85-1, 9,10-Bis(phenylethynyl)anthracene
RL: CAT (Catalyst use); USES (Uses)
(sensitizers; sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns. contg.)

IT 194470-36-5 194470-38-7 194470-40-1
RL: CAT (Catalyst use); USES (Uses)
(sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns.)

IT 9003-44-5P, Isobutyl vinyl ether homopolymer 9003-53-6P, Polystyrene 12002-26-5P, Tetramethoxysilane polymer 25067-59-8P, N-Vinylcarbazole homopolymer 25190-06-1P 27790-26-7P 28728-97-4P, Poly[oxy(1-oxo-1,4-butanediyl)] 29611-97-0P, 1,4-Butanediol diglycidyl ether homopolymer 42954-97-2P, 1,5,7,11-Tetraoxaspiro(5,5)undecane homopolymer 42993-70-4P, 1,4,6-Trioxaspiro(4,4)nonane homopolymer 80057-28-9P 82752-41-8P 101008-38-2P 163219-73-6P 194293-77-1P 194353-24-7P 194373-11-0P 194429-21-5P, BHPE 3150 194555-87-8P
RL: IMF (Industrial manufacture); PREP (Preparation)
(sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns.)

IT 27775-58-2P, Pentaerythritol triacrylate homopolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(sulfoxonium borates as **acid**-generating agents for photosensitive curable resin compns. contg.)

IT 2797-28-6, Lithium tetrakis(pentafluorophenyl)borate 80621-31-4, Dimethylphenacylsulfoxonium chloride 153347-65-0, Lithium

tetrakis[3,5-bis(trifluoromethyl)phenyl]borate
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfoxonium borates as **acid**-generating agents from)

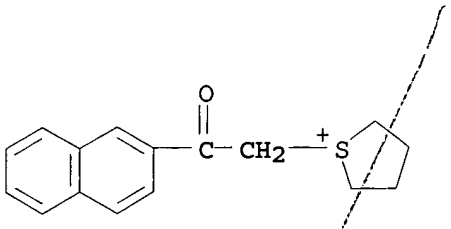
L13 ANSWER 44 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:467621 HCAPLUS
DOCUMENT NUMBER: 127:109943
TITLE: Light-sensitive polycyanurate compositions as photoresists and their preparation
INVENTOR(S): Hedrick, Jeffrey Curtis; Papathomas, Konstantinos I.; Tisdale, Stephen L.; Viehbeck, Alfred; Gelorme, Jeffrey Donald; Markovich, Voya Rista; Lewis, Thomas H.; Furniss, Stephen Joseph
PATENT ASSIGNEE(S): International Business Machines Corporation, USA
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

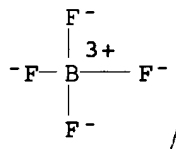
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09137059	A2	19970527	JP 1996-242987	19960913
JP 3177173	B2	20010618		
US 5919596	A	19990706	US 1997-798592	19970211
PRIORITY APPLN. INFO.:			US 1995-528291 A	19950914

AB The curable crack-resistant compns., useful for circuit boards and electronic packaging, contain (1) thermosetting materials comprising cyanate resins and/or their prepolymers, (2) reactive halogen-contg. thermoplastic resins as modifiers, and (3) photosensitizers. Preferably, component 2 is a F-contg. polyoxyarylene and component 3 contains a cation of a Group IV-VIII transition metal.
IT **71967-58-3**
RL: CAT (Catalyst use); USES (Uses)
(photosensitizers; light-sensitive polycyanurate compns. as photoresists)
RN 71967-58-3 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, tetrafluoroborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 71967-57-2
CMF C16 H17 O S





CM 2

CRN 14874-70-5
CMF B F4
CCI CCS

IC ICM C08L079-00
ICS G03F007-027; G03F007-029; H01L021-027
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): **74**
IT Lewis **acids**
RL: CAT (Catalyst use); USES (Uses)
(precursors, photosensitizers; light-sensitive polycyanurate compns. as photoresists)
IT 32760-80-8, Irgacure 261 57840-38-7 58162-30-4 59626-68-5
66003-78-9 71449-78-0 **71967-58-3** 73981-33-6
75872-93-4 89452-37-9 135539-92-3 191981-90-5 191981-91-6
191981-92-7 191981-93-8 191981-94-9 191981-96-1 191981-97-2
191981-98-3 191981-99-4 191982-00-0
RL: CAT (Catalyst use); USES (Uses)
(photosensitizers; light-sensitive polycyanurate compns. as photoresists)

L13 ANSWER 45 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:326350 HCAPLUS
DOCUMENT NUMBER: 126:293765
TITLE: Functional organic materials, compositions thereof, light transmittance control of them, and manufacture of colored thin film patterns
INVENTOR(S): Gokochi, Tooru; Yoshizumi, Akira; Kihara, Naoko; Naito, Takuya; Asakawa, Koji; Shinoda, Naomi; Nakase, Makoto
PATENT ASSIGNEE(S): Tokyo Shibaura Electric Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09067421	A2	19970311	JP 1995-222347	19950830
US 5853952	A	19981229	US 1996-705265	19960829
PRIORITY APPLN. INFO.:			JP 1995-222347 A	19950830

AB Title materials have azomethyne bonds formed by condensation of aldehydes with amines. Title compns. contain R1CHO, R2NH2 (R1 and/or R2 are arom. org. groups), and optionally (A) compds. generating **acids** by photoirradn. or heat treatment or (B) **acid** photogenerators and **acid**-crosslinkable or -degradable resins. Control of light transmittance of the materials by oxidn./redn. or heating/cooling, is also claimed. Manuf. of colored thin film patterns, useful for black matrixes of liq. crystal devices or photog. imaging devices, color filters, etc., ia also claimed. Thus, 2,3-naphthalenedicarbaldehyde and diamino di-Ph ether were dissolved in N-methylpyrrolidone (I), refluxed at 70-140°, and filtrated to obtain a material (max. absorption wavelength 652 nm), which and methylsulfonylacetonitrile was dissolved in I and applied on a quartz substrate to form a membrane showing light absorption 2.5 after contacting 5% aq. H2SO4 and 0.1 after washing.

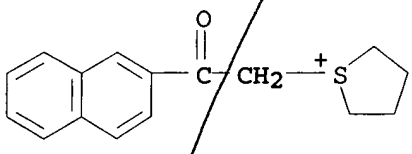
IT **160509-78-4**
RL: MOA (Modifier or additive use); USES (Uses)
(**acid** photogenerators; azomethyne compds. for light-transmittance control by oxidn./redn. or heating/cooling in black matrixes of liq. crystal devices or photog. imaging devices and colored filters)

RN 160509-78-4 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

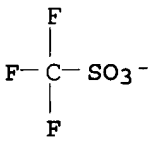
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



IC ICM C08G012-06
ICS C08G073-00
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 37, 38, **74**
IT 36305-05-2 107761-81-9 124760-77-6 **160509-78-4**
RL: MOA (Modifier or additive use); USES (Uses)
(**acid** photogenerators; azomethyne compds. for light-transmittance control by oxidn./redn. or heating/cooling in black matrixes of liq. crystal devices or photog. imaging devices and colored filters)

L13 ANSWER 46 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:9 HCAPLUS
DOCUMENT NUMBER: 126:39711
TITLE: Visible-light polymerization initiator and visible-light polymerizable composition
INVENTOR(S): Kazama, Hideki; Satoh, Takeshi; Oguri, Makoto
PATENT ASSIGNEE(S): Tokuyama Corporation, Japan
SOURCE: Eur. Pat. Appl., 39 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 738928	A2	19961023	EP 1996-302758	19960419
EP 738928	A3	19970625		
EP 738928	B1	20010620		
R: DE, FR, GB				
JP 09003109	A2	19970107	JP 1996-79123	19960401
JP 3388670	B2	20030324		
US 5744511	A	19980428	US 1996-634259	19960418
PRIORITY APPLN. INFO.:			JP 1995-93924 A	19950419

OTHER SOURCE(S): MARPAT 126:39711

AB A visible-light polymerizable compn. suited for use as a photoresist and in printing plate prepn. and dental applications comprises (1) a polymerizable monomer compn. comprising a (meth)acrylate monomer and (2) a visible-light polymn. initiator comprising (A) a coumarin dye, (B) at least one photosensitive **acid** generator selected from haloalkyl-s-triazines and diphenyliodonium salts., and (C) an aryl borate.

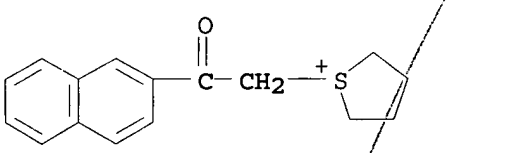
IT **160509-78-4**
RL: TEM (Technical or engineered material use); USES (Uses)
(visible-light-sensitive photopolymerizable compns. for dental applications and printing plate prepn. contg.)

RN 160509-78-4 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

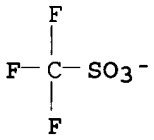
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



IC ICM G03F007-029

CC 74-4 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

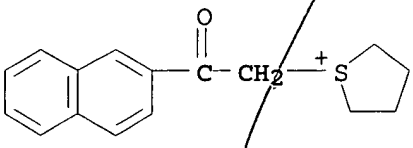
IT 61-73-4 109-16-0 135-49-9 143-66-8 313-39-3 868-77-9
989-38-8 1565-94-2 2930-37-2 3225-23-8 3584-23-4 3712-60-5
4216-89-1, Bicyclo[2.2.2]octane-2,3-dione 6542-67-2 10287-53-3
10409-06-0 14680-77-4 14740-54-6 16025-99-3 24504-22-1
25776-12-9 27425-55-4 29651-47-6 32435-46-4 38215-36-0
40442-45-3 42573-57-9 52754-92-4 55804-67-6 58109-40-3
63226-13-1 64173-96-2 66003-76-7 73903-44-3 75980-60-8
79060-88-1 87709-41-9 106802-96-4 108362-85-2 115298-63-0
116808-67-4 120945-63-3 126615-05-2 127279-74-7 135998-36-6
137781-62-5 144571-65-3 155306-71-1 **160509-78-4**

184591-53-5 184591-54-6 184591-55-7 184591-56-8 184591-57-9
184591-58-0 184591-59-1 184591-60-4 184591-61-5 184591-62-6
184591-63-7 184591-64-8 184591-65-9 184591-66-0 184591-67-1
RL: TEM (Technical or engineered material use); USES (Uses)
(visible-light-sensitive photopolymerizable compns. for dental applications and printing plate prepn. contg.)

L13 ANSWER 47 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:444774 HCAPLUS
DOCUMENT NUMBER: 125:208214
TITLE: Novel ArF excimer laser resists based on menthyl methacrylate terpolymer
AUTHOR(S): Shida, Naomi; Ushirogouchi, Tohru; Asakawa, Kohji; Nakase, Makoto
CORPORATE SOURCE: Materials Devices Lab., Toshiba Corp., Kawasaki, 210, Japan
SOURCE: Journal of Photopolymer Science and Technology (1996), 9(3), 457-464
CODEN: JSTEEW; ISSN: 0914-9244
PUBLISHER: Technical Association of Photopolymers, Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Recent advances in the single-layer resist for forming finer patterns have led us to a search for new resist materials for the ArF excimer laser. We describe a novel, environmentally friendly, single-layer resist based on a menthyl methacrylate terpolymer which has good dry etch resistance and high transparency in the wavelength region of ArF emission.
IT **160509-78-4**, 1,2'-Naphthylcarbonylmethyltetrahydrothiopheniu m triflate
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator; menthyl methacrylate terpolymer photoresists for excimer laser exposure)
RN 160509-78-4 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

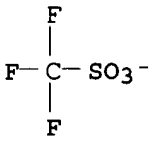
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 25768-50-7P, Cyclohexyl methacrylate homopolymer 52734-51-7P, Menthyl methacrylate homopolymer 181017-30-1P, tert-Butyl methacrylate-menthyl methacrylate-methacrylic **acid** copolymer
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(menthyl methacrylate terpolymer photoresists for excimer laser exposure)

IT **160509-78-4**, 1,2'-Naphthylcarbonylmethyltetrahydrothiopheniu m triflate
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator; menthyl methacrylate terpolymer photoresists for excimer laser exposure)

IT 66003-78-9, Triphenylsulfonium triflate
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generators; menthyl methacrylate terpolymer photoresists for excimer laser exposure)

L13 ANSWER 48 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:1002093 HCAPLUS
DOCUMENT NUMBER: 124:101672
TITLE: Single-layer resist for ArF excimer laser exposure containing aromatic compounds
AUTHOR(S): Ushirogouchi, Tohru; Naito, Takuya; Asakawa, Koji; Shida, Naomi; Nakase, Makoto; Tada, Tsukasa
CORPORATE SOURCE: Materials Devices Research Laboratories, Toshiba Research Development Center, Kawasaki, 210, Japan
SOURCE: ACS Symposium Series (1995), 614(Microelectronics Technology), 239-54
CODEN: ACSMC8; ISSN: 0097-6156
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Arom. compds. have been considered as indispensable materials for resist, since the arom. backbone has high thermal stability, high etching resistance to plasmas and high photo-efficiency. The arom. phenolic moiety also has good soly. characteristics in alk. developers. However, few papers have reported the application of arom. compds. as resists for ArF excimer laser exposure, since the conventional arom. compds. have strong absorption at 193 nm. Using MO calcn., the authors tried to find an effective modification method for obtaining arom. compds. transparent to the ArF excimer laser. The calcd. absorption max. of series of arom. compds. were found to be significantly red shifted upon conjugation of the arom.

ring, such as in polycyclic arom. compds. This expectation was confirmed with spectral expts. We tried to prep. a novel resist for the ArF laser, consisting of arom. compds., and acceptably fine pattern with 0.17 μm size was obtained with up to 30 wt% of arom. compds. The arom. phenolic moiety of the polymer in the resist was also found to effect the efficiency of photo-**acid** generation in the polymer film.

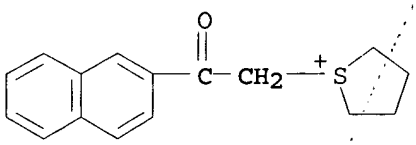
IT **160509-78-4**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(single layer resist contg. arom. compds. transparent at 193 nm. achieved by extended conjugation of polycyclic arom. rings)

RN 160509-78-4 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

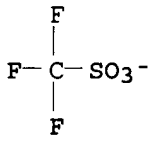
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 22, 73

IT 66-99-9, 2-Naphthalenecarboxaldehyde 25302-12-9 28702-85-4 69432-40-2, TAZ 106 85342-62-7 115311-03-0, 2-(tert-Butoxycarbonyloxy)naphthalene **160509-78-4** 162252-02-0 172757-17-4 172826-89-0, ALR 1 172826-90-3, ALR 2
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(single layer resist contg. arom. compds. transparent at 193 nm. achieved by extended conjugation of polycyclic arom. rings)

L13 ANSWER 49 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:829546 HCAPLUS
DOCUMENT NUMBER: 123:354454
TITLE: Chemically amplified ArF excimer laser resists using the absorption band shift method
AUTHOR(S): Nakase, Makoto; Naito, Takuya; Asakawa, Koji; Hongu, Akinori; Shida, Naomi; Ushirogouchi, Tohru
CORPORATE SOURCE: Research and Development Center, Toshiba Corporation, Kawasaki, 210, Japan
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1995), 2438(Advances in Resist Technology and Processing XII), 445-54
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English

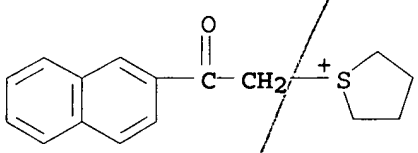
AB The vacuum-UV-absorption spectrum of arom. compds. can be red-shifted toward longer wavelengths to make the window of absorption align with 193 nm by extending the conjugation length of the double bonds. Based on this observation, the new concept of absorption band shifting is proposed as a way to increase the transparency of resist components for 193 nm ArF excimer laser exposure. A chem. amplified single-layer ArF excimer laser resist consisting of naphthalene-contg. **photoacid** generator, a dissoln. inhibitor and base polymer has been developed. Using this resist, a 0.17 μm line/space pattern with a vertical resist profile was resolved by a prototype 0.55 NA projection lens for ArF excimer laser exposure, and a resoln. limit of 0.16 μm was achieved.

IT **160509-78-4**
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(design of chem. amplified excimer laser resists using absorption band shift method)

RN 160509-78-4 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

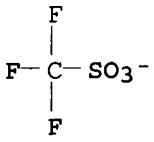
CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 37181-39-8

CMF C F3 O3 S

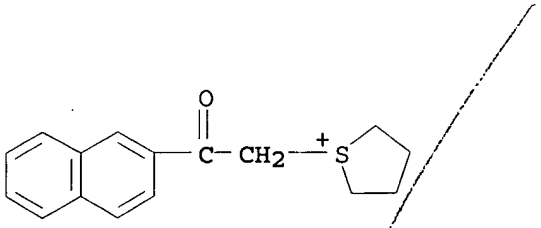


CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 115311-03-0 **160509-78-4** 162252-02-0
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(design of chem. amplified excimer laser resists using absorption band shift method)

L13 ANSWER 50 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:326951 HCAPLUS
DOCUMENT NUMBER: 122:226604
TITLE: Highly transparent chemically amplified ArF excimer laser resists by absorption band shift for 193 nm wavelength
AUTHOR(S): Naito, Takuya; Asakawa, Koji; Shida, Naomi; Ushirogouchi, Tohru; Nakase, Makoto
CORPORATE SOURCE: Res. Development Center, Toshiba Corp., Kawasaki, 210, Japan
SOURCE: Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (1994), 33(12B), 7028-32
CODEN: JAPNDE; ISSN: 0021-4922
PUBLISHER: Japanese Journal of Applied Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Naphthalene-contg. chem. amplified resists for ArF excimer laser exposure are proposed, based on the concept of the absorption band shift by conjugation extension. Newly developed ArF excimer resists show a high transparency at 193 nm wavelength, a high sensitivity and a high contrast. The sensitivity of the resist is 150 mJ/cm2, which is 20 times greater than that of poly(methylmethacrylate)(PMMA). Furthermore, a 0.16 μm pattern could be successfully fabricated by an ArF excimer laser stepper with 0.55 numerical aperture (NA) projection lens.
IT **160509-78-4**
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator; highly transparent naphthalene-contg. chem. amplified ArF excimer laser resists)
RN 160509-78-4 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

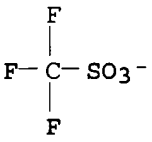
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 66003-76-7, Diphenyliodonium triflate 66003-78-9, Triphenylsulfonium trifluoromethylsulfonate 84563-54-2, Bis(t-butylphenyl)iodonium triflate 85342-62-7 126615-05-2, Pyrogallol trimesylate **160509-78-4**
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator; highly transparent naphthalene-contg. chem. amplified ArF excimer laser resists)

L13 ANSWER 51 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:67730 HCAPLUS
DOCUMENT NUMBER: 122:92629
TITLE: Negative resists for I-line lithography utilizing **acid** catalyzed intramolecular dehydration reaction
AUTHOR(S): Ueno, Takumi; Uchino, Shou-ichi; Hattori, Keiko T.; Onozuka, Toshihiko; Shirai, Sei-ichiro; Moriuchi, Noboru; Hashimoto, Michiaki; Koibuchi, Shigeru
CORPORATE SOURCE: Central Research Laboratory, Hitachi Ltd., Kokubunji, 185, Japan
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1994), 2195(Advances in Resist Technology and Processing XI), 173-81
CODEN: PSISDG; ISSN: 0277-786X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Chem. amplification neg. resist system composed of a novolak resin, a carbinol and an **acid** generator is investigated for i-line phase-shift lithog. The reaction in this resist is based on an **acid**-catalyzed intramol. dehydration reaction. The dehydration products act as aq.-base dissoln. inhibitors, and

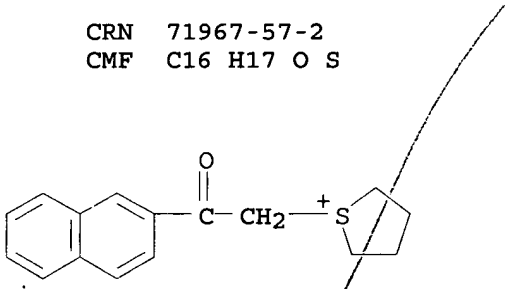
carbinol compds. in unexposed areas work as dissoln. promoters. The resist composed of a novolak resin, 1,4-bis(α-hydroxyisopropyl)benzene (DIOL-1) and 2-naphthoylmethyltetramethylenesulfonium triflate (PAG-2) gives the best lithog. performance in terms of sensitivity and resoln. Line-and-space patterns of 0.275 μm are obtained using an i-line stepper (NA:0.45) in conjunction with a phase shifting mask.

IT **160509-78-4**
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator; **acid**-catalyzed intramol. dehydration of carbinols in chem. amplification neg. resist for i-line phase-shift lithog.)

RN 160509-78-4 HCAPLUS
CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

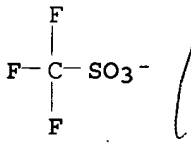
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **acid** catalyzed intramol dehydration carbinol photoresist; chem amplification neg resist photolithog; phase shift i line lithog

IT Dehydration, chemical
(intramol., **acid**-catalyzed intramol. dehydration of carbinols in chem. amplification neg. resist for i-line phase-shift lithog.)

IT Phenolic resins, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(novolak, **acid**-catalyzed intramol. dehydration of carbinols in chem. amplification neg. resist for i-line phase-shift lithog.)

IT Lithography
(photo-, **acid**-catalyzed intramol. dehydration of carbinols in chem. amplification neg. resist for i-line phase-shift lithog.)
IT Resists
(photo-, neg.-working, **acid**-catalyzed intramol. dehydration of carbinols in chem. amplification neg. resist for i-line phase-shift lithog.)
IT 1999-85-5 2225-30-1, 1,2,4-Tris(α-hydroxyisopropyl)benzene 2948-46-1, 1,4-Bis(α-hydroxyisopropyl)benzene 19576-38-6, 1,3,5-Tris(α-hydroxyisopropyl)benzene 22726-67-6 24157-82-2, 2,6-Bis(2-hydroxy-2-propyl)naphthalene 54609-82-4 81582-25-4
RL: TEM (Technical or engineered material use); USES (Uses)
(carbinol; **acid**-catalyzed intramol. dehydration of carbinols in chem. amplification neg. resist for i-line phase-shift lithog.)
IT 3584-23-4, 2-(p-Methoxyphenyl)-4,6-bis(trichloromethyl)-s-triazine 3712-60-5, 2-(p-Chlorophenyl)-4,6-bis(trichloromethyl)-s-triazine 24504-22-1, 2-Phenyl-4,6-bis(trichloromethyl)-s-triazine 42573-57-9, 2-(4-Methoxystyryl)-4,6-bis(trichloromethyl)-1,3,5-triazine 66003-76-7, Diphenyliodonium triflate 69432-40-2, 2-(4-Methoxy-1-naphthyl)-4,6-bis(trichloromethyl)-1,3,5-triazine **160509-78-4** 160509-79-5
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid** generator; **acid**-catalyzed intramol. dehydration of carbinols in chem. amplification neg. resist for i-line phase-shift lithog.)

L13 ANSWER 52 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1991:644043 HCAPLUS
DOCUMENT NUMBER: 115:244043
TITLE: Positive-working photosensitive composition
INVENTOR(S): Aotani, Yoshimasa; Umehara, Akira; Yamaoka, Tsuguo
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Ger. Offen., 22 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4035425	A1	19910516	DE 1990-4035425	19901107
DE 4035425	C2	19990527		
JP 03154059	A2	19910702	JP 1989-294422	19891113
US 5202216	A	19930413	US 1990-608801	19901105

PRIORITY APPLN. INFO.: JP 1989-294422 A
198911
13

AB The title compn. comprises a H2O-insol. but aq. alk. soln.-sol. polymer and an arom. sulfonic **acid** salt of an onium compd. The compn. has high sensitivity and produces high-contrast images.

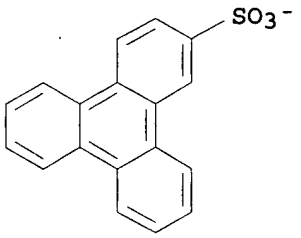
IT **137309-35-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and use of, in photosensitive compn.)

RN 137309-35-4 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, 2-triphenylenesulfonate (9CI) (CA INDEX NAME)

CM 1

CRN 137308-97-5
CMF C18 H11 O3 S



CM 2

CRN 71967-57-2
CMF C16 H17 O S

IC ICM G03F007-039
ICA C07C309-35; C07C309-44; C07C309-43; C07C309-38; C07C309-52; C07C309-25; C07C309-40; C07C309-39; C08L061-06; B41N003-00; H01L021-312
CC 74-4 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST photosensitive compn sensitivity contrast; onium salt sulfonic **acid**
IT Onium compounds
RL: USES (Uses)
(of sulfonic **acids**, photosensitive compns. contg.)

IT Lithographic plates
(photosensitive, pos.-working, polymers and onium compd. sulfonic **acid** salts in)
IT Photoimaging compositions and processes
(pos.-working, polymer and onium sulfonic **acid** salt in)
IT 137308-83-9P 137308-84-0P 137308-86-2P 137308-87-3P
137308-88-4P 137308-89-5P 137308-90-8P 137308-92-0P
137308-94-2P 137308-96-4P 137308-98-6P 137309-00-3P
137309-01-4P 137309-03-6P 137309-04-7P 137309-05-8P
137309-06-9P 137309-07-0P 137309-08-1P 137309-09-2P
137309-10-5P 137309-11-6P 137309-12-7P 137309-13-8P
137309-14-9P 137309-15-0P 137309-16-1P 137309-17-2P
137309-18-3P 137309-20-7P 137309-22-9P 137309-23-0P
137309-25-2P 137309-26-3P 137309-27-4P 137309-28-5P
137309-29-6P 137309-30-9P 137309-33-2P 137309-34-3P
137309-35-4P 137309-36-5P 137309-37-6P 137309-38-7P
137309-39-8P 137309-40-1P 137337-63-4P 137337-64-5P
137337-66-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and use of, in photosensitive compn.)

L13 ANSWER 53 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1991:52767 HCAPLUS
DOCUMENT NUMBER: 114:52767
TITLE: Negative resist for i-line lithography utilizing **acid** catalyzed silanol-condensation reaction
AUTHOR(S): Hayashi, Nobuaki; Tadano, Keiko; Tanaka, Toshihiko; Shiraishi, Hiroshi; Ueno, Takumi; Iwayanagi, Takao
CORPORATE SOURCE: Cent. Res. Lab., Hitachi Ltd., Kokubunji, 185, Japan
SOURCE: Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (1990), 29(11), 2632-7
CODEN: JAPNDE; ISSN: 0021-4922
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Neg. resist systems composed of a novolak resin, diphenylsilanediol (Ph2Si(OH)2) and an **acid** generator are investigated for i-line lithog. The reaction in this resist system is based on an **acid**-catalyzed condensation reaction; the **acid** produced in the exposed area induces a condensation reaction of Ph2Si(OH)2 during post-exposure baking. The condensation product, siloxane, acts as an aq.-base dissoln. inhibitor, while silanol compds. in unexposed areas work as dissoln. accelerators. The resist composed of a novolak resin, Ph2Si(OH)2 and 2-naphthoylmethyl-tetramethylenesulfonium hexafluoroantimonate (NMTMS-SbF6) shows a sensitivity of about 200 mJ/cm2 at 365 nm. This sensitivity is lower than that at 248 nm when triphenylsulfonium triflate (Ph3S+OTf-) is used as an **acid** generator, which can be ascribed to the low quantum yield of **acid** generation from NMTMS-SbF6. Using this resist, 0.3 μm space patterns with 1 μm film thickness were obtained by combining an i-line stepper with a phase-shifting mask.
IT **131582-00-8**

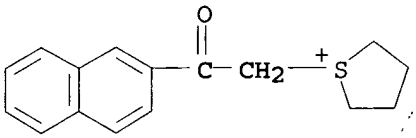
RL: USES (Uses)
(neg. photoresist compn. contg. novolak resin and di-Ph silanediol and **acid** generator of, for i-line submicron lithog)

RN 131582-00-8 HCAPLUS

CN Thiophenium, tetrahydro-1-[2-(2-naphthalenyl)-2-oxoethyl]-, (OC-6-11)-hexafluoroantimonate(1-) (9CI) (CA INDEX NAME)

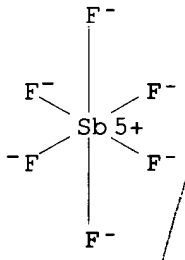
CM 1

CRN 71967-57-2
CMF C16 H17 O S



CM 2

CRN 17111-95-4
CMF F6 Sb
CCI CCS



CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Phenolic resins, uses and miscellaneous
RL: USES (Uses)
(novolak, neg. photoresist compn. contg. diphenylsilanediol and **acid** generator and, **acid** catalyzed silanol-condensation reaction in)

IT Resists
(photo-, neg., using **acid** catalyzed silanol-condensation reaction, for i-line exposure)

IT 947-42-2, Diphenylsilanediol
RL: USES (Uses)
(neg. photoresist compn. contg. novolak resin and **acid** generator and, for i-line submicron lithog using **acid** -catalyzed silanol-condensation reaction)

IT 66003-78-9, Triphenylsulfoniumtriflate **131582-00-8**

RL: USES (Uses)
(neg. photoresist compn. contg. novolak resin and di-Ph silanediol and **acid** generator of, for i-line submicron lithog)

L13 ANSWER 54 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1989:182771 HCAPLUS
DOCUMENT NUMBER: 110:182771
TITLE: Novel polymeric dissolution inhibitor for the design of sensitive, dry etch resistant, base-developable resist
AUTHOR(S): Ito, Hiroshi; Flores, Elizabeth; Renaldo, Alfred F.
CORPORATE SOURCE: Almaden Res. Cent., IBM, San Jose, CA, 95120-6099, USA
SOURCE: Journal of the Electrochemical Society (1988), 135(9), 2328-33
CODEN: JESOAN; ISSN: 0013-4651
DOCUMENT TYPE: Journal
LANGUAGE: English

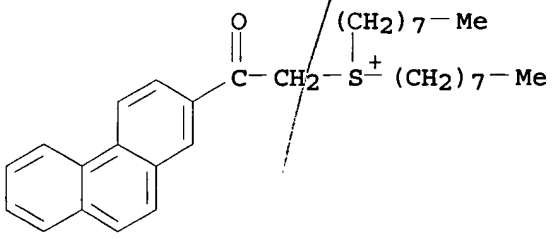
AB Polyphthalaldehyde (PPA) inhibits dissoln. of novolak resins in aq. base very efficiently. When an onium salt cationic photoinitiator such as triarylsulfonium or diaryliodonium metal halides is added to the polymer mixt., PPA is completely reverted to the starting monomer by reaction with photochem. generated **acid** and removed from the exposed area upon postbake, thereby recovering the intrinsic base soly. of the novolak resin. PPA as a polymeric dissoln. inhibitor used in conjunction with onium salts provides aq.-base-developable, high-contrast, pos. resist systems very sensitive to deep-UV radiation (full development at 2 mJ/cm2). The system offers stable development processes due to the induction effect and high contrast.

IT **120325-35-1**
RL: USES (Uses)
(photoresist compn. contg. poly(phthalaldehyde) dissoln. inhibitor and novolak resin and photoinitiator of)

RN 120325-35-1 HCAPLUS
CN Sulfonium, dioctyl[2-oxo-2-(2-phenanthrenyl)ethyl]-, (OC-6-11)-hexafluoroantimonate(1-) (9CI) (CA INDEX NAME)

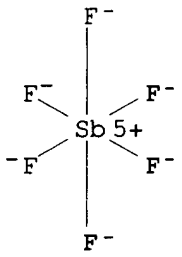
CM 1

CRN 120325-34-0
CMF C32 H45 O S



CM 2

CRN 17111-95-4
CMF F6 Sb
CCI CCS

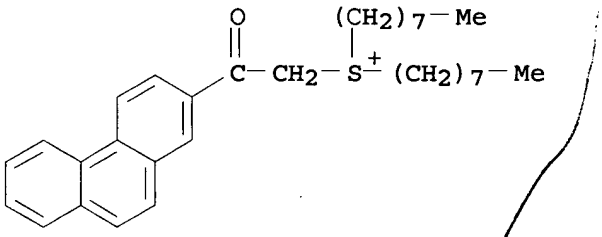


CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 71449-78-0 120325-33-9 **120325-35-1** 120325-37-3
RL: USES (Uses)
(photoresist compn. contg. poly(phthalaldehyde) dissoln. inhibitor and novolak resin and photoinitiator of)

L13 ANSWER 55 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1989:182770 HCAPLUS
DOCUMENT NUMBER: 110:182770
TITLE: Evaluation of onium salt cationic photoinitiators as novel dissolution inhibitor for novolak resin
AUTHOR(S): Ito, Hiroshi; Flores, Elizabeth
CORPORATE SOURCE: Almaden Res. Cent., IBM, San Jose, CA, 95120-6099, USA
SOURCE: Journal of the Electrochemical Society (1988), 135(9), 2322-7
CODEN: JESOAN; ISSN: 0013-4651
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Triarylsulfonium and diaryliodonium salts are a new class of dissoln. inhibitors for novolak resins. These radiation-sensitive **acid** generators are sol. in common casting solvents and are thermally very stable. Simple triphenylsulfonium and diphenyliodonium salts sensitive to deep-UV inhibit the dissoln. of novolak resins in aq. base very efficiently and render the exposed areas more sol. in aq. base, providing full development at 25 mJ/cm2 of 254 nm radiation.
IT **120325-35-1**
RL: USES (Uses)
(photoresist film based on novolak resin, evaluation of photoinitiator of, as dissoln. inhibitor for)
RN 120325-35-1 HCAPLUS
CN Sulfonium, dioctyl[2-oxo-2-(2-phenanthrenyl)ethyl]-, (OC-6-11)-hexafluoroantimonate(1-) (9CI) (CA INDEX NAME)

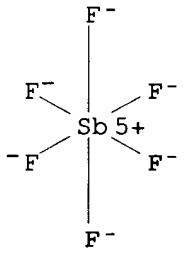
CM 1

CRN 120325-34-0
CMF C32 H45 O S



CM 2

CRN 17111-95-4
CMF F6 Sb
CCI CCS



CC 74-5 (**Radiation** Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 57840-38-7, Triphenylsulfonium hexafluoroantimonate 57900-42-2, Triphenylsulfonium hexafluoroarsenate 62613-15-4, Diphenyliodonium hexafluoroarsenate 71449-78-0 120325-33-9 **120325-35-1** 120325-37-3
RL: USES (Uses)
(photoresist film based on novolak resin, evaluation of photoinitiator of, as dissoln. inhibitor for)

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